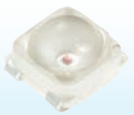
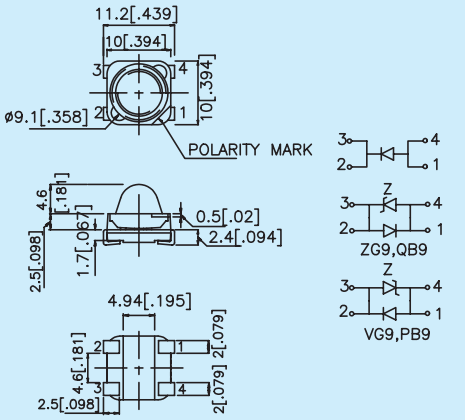
AAD1-1010



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @350mA		Viewing Angle	Dimension
				Min.	Typ.	2θ1/2	
AAD1-1010SEC28	InGaAlP	625	water clear	160000	300000	20°	10mm x 10mm (XPower)
AAD1-1010SYC28	InGaAlP	588	water clear	40000	80000	20°	
AAD1-1010ZG9ZC	AlInGaN	530	water clear	65000	85000	20°	
AAD1-1010VG9ZC	InGaN	527	water clear	58000	90000	20°	
AAD1-1010QB9ZC	AlInGaN	466	water clear	10000	18000	20°	
AAD1-1010PB9ZC	InGaN	470	water clear	14000	25000	20°	
AAD1-1010RW9ZC	InGaN	-	water clear	40000	60000	20°	
				X=0.31, Y=0.31			

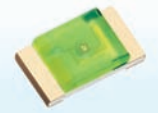


NOTES:
1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.
3.Measurement tolerance of the chromaticity coordinates is ±0.01 for flat lens types and ±0.02 for domed lens types. Typical measurement condition: IF=20mA,Ta=25°C.
4.AAD1-1010 serie results from mounting on PC board FR4(pad size>=100mm2 per pad).

APHH1005	APHHS1005	APT1608
		

Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.	2θ1/2	
APHH1005RWF/A	InGaN	-	yellow fluorescent	70	140	170°	1.0mm x 0.5mm x 0.7mm (0402)
				X=0.31, Y=0.31			
APHHS1005SURCK	InGaAlP	635	water clear	50	150	120°	1.0mm x 0.5mm x 0.5mm (0402)
APHHS1005SECK	InGaAlP	601	water clear	50	160	120°	
APHHS1005SYCK	InGaAlP	590	water clear	36	120	120°	
APHHS1005CGCK	InGaAlP	570	water clear	10	40	120°	
APHHS1005VGC/A	InGaN	525	water clear	50	180	120°	
APHHS1005VGC/Z	InGaN	535	water clear	380	800	120°	
APHHS1005PBC/A	InGaN	470	water clear	18	60	120°	
APHHS1005PBC/Z	InGaN	465	water clear	110	200	120°	
APT1608EC	GaAsP/GaP	625	water clear	4	12	120°	1.6mm x 0.8mm x 0.75mm (0603 Super Thin)
APT1608SRCPRV	GaAlAs	640	water clear	36	100	120°	
APT1608SURCK	InGaAlP	635	water clear	50	150	120°	
APT1608SECK	InGaAlP	601	water clear	50	160	120°	
APT1608YC	GaAsP/GaP	588	water clear	2.6	8	120°	
APT1608SYCK	InGaAlP	590	water clear	36	120	120°	
APT1608SGC	GaP	568	water clear	4	15	120°	
APT1608MGC	InGaAlP	568	water clear	18	70	120°	
APT1608CGCK	InGaAlP	570	water clea	10	40	120°	
APT1608ZGC	AlInGaN	525	water clear	110	300	120°	
APT1608VGC/A	InGaN	525	water clear	50	180	120°	
APT1608VGC/Z	InGaN	535	water clear	380	800	120°	
APT1608QBC/D	AlInGaN	470	water clear	50	100	120°	
APT1608PBC/A	InGaN	470	water clear	18	60	120°	
APT1608PBC/Z	InGaN	465	water clear	110	200	120°	
APT1608RWF/A	InGaN	-	yellow fluorescent	70	140	120°	
				X=0.31, Y=0.31			
APT1608MBC	InGaN	466	water clear	4	10	120°	

NOTES:
1.AP series custom-made is available upon request.
2.Measurement tolerance of the chromaticity coordinates is ±0.01 for flat lens types and ±0.02 for domed lens types. Typical measurement condition: IF=20mA, Ta=25°C.

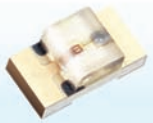
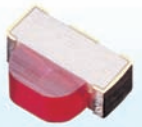
APT2012	APHCM2012xxx-F01	AP23xxx/F-F01	APT3216
			

Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.	2θ1/2	
APT2012EC	GaAsP/GaP	625	water clear	4	12	120°	2.0mm x 1.25mm x 0.75mm (0805 Super Thin)
APT2012SRCPRV	GaAlAs	640	water clear	36	100	120°	
APT2012SURCK	InGaAlP	635	water clear	50	150	120°	
APT2012SECK	InGaAlP	601	water clear	50	160	120°	
APT2012YC	GaAsP/GaP	588	water clear	2.6	8	120°	
APT2012SYCK	InGaAlP	590	water clear	36	120	120°	
APT2012SGC	GaP	568	water clear	4	15	120°	
APT2012MGC	InGaAlP	568	water clear	18	70	120°	
APT2012CGCK	InGaAlP	570	water clear	10	40	120°	
APT2012ZGC	AlInGaN	525	water clear	110	300	120°	
APT2012VGC/A	InGaN	525	water clear	50	180	120°	
APT2012VGC/Z	InGaN	535	water clear	380	800	120°	
APT2012QBC/D	AlInGaN	470	water clear	50	100	120°	
APT2012PBC/A	InGaN	470	water clear	18	60	120°	
APT2012PBC/Z	InGaN	465	water clear	110	200	120°	
APT2012RWF/A	InGaN	-	yellow fluorescent	70	140	120°	
				X=0.31,Y=0.31			
APT2012MBC	GaN	466	water clear	4	10	120°	
APHCM2012SURCK-F01	InGaAlP	635	water clear	50	150	110°	2.0mm x 1.25mm x 0.4mm
APHCM2012SECK-F01	InGaAlP	601	water clear	50	160	110°	
APHCM2012SYCK-F01	InGaAlP	590	water clear	36	120	110°	
APHCM2012CGCK-F01	InGaAlP	570	water clear	10	40	110°	
APHCM2012ZGC-F01	AlInGaN	525	water clear	110	300	110°	
APHCM2012VGC/A-F01	InGaN	525	water clear	50	180	110°	
APHCM2012VGC/Z-F01	InGaN	535	water clear	380	800	110°	
APHCM2012QBC/D-F01	AlInGaN	470	water clear	50	100	110°	
APHCM2012PBC/A-F01	InGaN	470	water clear	18	60	110°	
APHCM2012PBC/Z-F01	InGaN	465	water clear	110	200	110°	
AP23SURCK/F-F01	InGaAlP	635	water clear	50	150	120°	3.0mm x 2.4mm x 1.05mm
AP23SECK/F-F01	InGaAlP	601	water clear	50	160	120°	
AP23SYCK/F-F01	InGaAlP	590	water clear	36	120	120°	
AP23SGC/F-F01	GaN	568	water clear	7	20	120°	
AP23CGCK/F-F01	InGaAlP	570	water clear	18	60	120°	
AP23ZGC/F-F01	AlInGaN	525	water clear	110	380	120°	
AP23VGC/A/F-F01	InGaN	525	water clear	50	180	120°	
AP23PBC/A/F-F01	InGaN	470	water clear	18	50	120°	
AP23QBC/D/F-F01	AlInGaN	470	water clear	50	100	120°	
AP23ESGC-F01	GaAsP/GaP	625	water clear	7	20	120°	
	GaP	568		7	20		
AP23YSGC-F01	GaAsP/GaP	588	water clear	2.6	8	120°	
	GaP	568		7	20		
APT3216EC	GaAsP/GaP	625	water clear	4	12	120°	3.2mm x 1.6mm x 0.75mm (1206 Super Thin)
APT3216SRCPRV	GaAlAs	640	water clear	36	80	120°	
APT3216SURCK	InGaAlP	635	water clear	50	150	120°	
APT3216SECK	InGaAlP	601	water clear	50	160	120°	
APT3216YC	GaAsP/GaP	588	water clear	2.6	8	120°	
APT3216SYCK	InGaAlP	590	water clear	36	120	120°	
APT3216SGC	GaP	568	water clear	4	15	120°	
APT3216MGC	InGaAlP	568	water clear	18	70	120°	
APT3216CGCK	InGaAlP	570	water clear	10	40	120°	
APT3216ZGC	AlInGaN	525	water clear	110	300	120°	
APT3216VGC/A	InGaN	525	water clear	50	180	120°	
APT3216VGC/Z	InGaN	535	water clear	380	800	120°	
APT3216QBC/D	AlInGaN	470	water clear	50	100	120°	
APT3216PBC/A	InGaN	470	water clear	18	60	120°	
APT3216PBC/Z	InGaN	465	water clear	110	200	120°	
APT3216RWF/A	InGaN	-	yellow fluorescent	70	140	120°	
				X=0.31,Y=0.31			
APT3216MBC	GaN	466	water clear	4	10	120°	

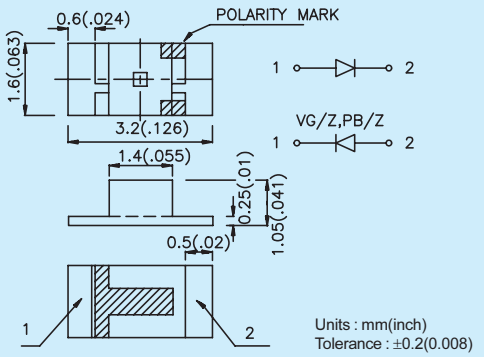
NOTES:
1.AP series custom-made is available upon request.
2.Measurement tolerance of the chromaticity coordinates is ±0.01 for flat lens types and ±0.02 for domed lens types. Typical measurement condition: IF=20mA, Ta=25°C.

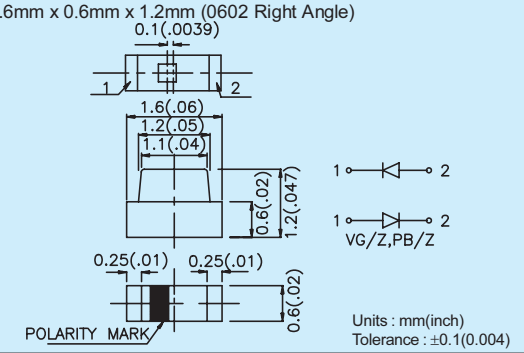
SURFACE MOUNT LED LAMPS

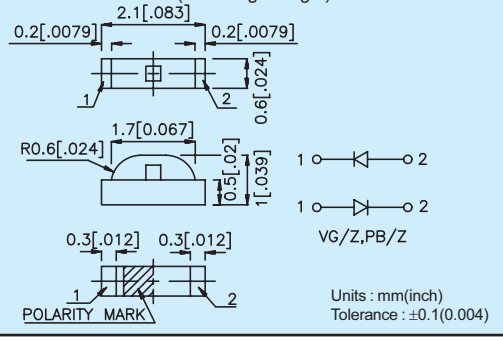
Kingbright

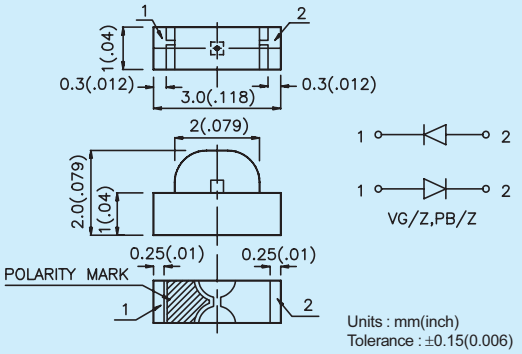
APTR3216	APA1606	APA2106	APA3010
			

Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.	2θ1/2	
APTR3216EC	GaAsP/GaP	625	water clear	4	12	120°	3.2mm x 1.6mm x 1.05mm (1206 Reverse Mount)
APTR3216SRCPRV	GaAlAs	640	water clear	36	80	120°	
APTR3216SURCK	InGaAlP	635	water clear	50	150	120°	
APTR3216SECK	InGaAlP	601	water clear	50	160	120°	
APTR3216YC	GaAsP/GaP	588	water clear	2.6	8	120°	
APTR3216SYCK	InGaAlP	590	water clear	36	120	120°	
APTR3216SGC	GaP	568	water clear	4	15	120°	
APTR3216MGC	InGaAlP	568	water clear	18	70	120°	
APTR3216CGCK	InGaAlP	570	water clear	10	40	120°	
APTR3216ZGC	AlInGaN	525	water clear	110	300	120°	
APTR3216VGC/A	InGaN	525	water clear	50	180	120°	
APTR3216VGC/Z	InGaN	535	water clear	380	800	120°	
APTR3216QBC/D	AlInGaN	470	water clear	50	100	120°	
APTR3216PBC/A	InGaN	470	water clear	18	60	120°	
APTR3216PBC/Z	InGaN	465	water clear	110	200	120°	
APA1606SURCK	InGaAlP	635	water clear	110	250	110°	1.6mm x 0.6mm x 1.2mm (0602 Right Angle)
APA1606SECK	InGaAlP	601	water clear	70	250	110°	
APA1606SYCK	InGaAlP	590	water clear	50	150	110°	
APA1606MGC	InGaAlP	568	water clear	36	80	110°	
APA1606CGCK	InGaAlP	570	water clear	18	60	110°	
APA1606ZGC	AlInGaN	525	water clear	70	250	110°	
APA1606VGC/A	InGaN	525	water clear	70	180	110°	
APA1606VGC/Z	InGaN	535	water clear	380	800	110°	
APA1606QBC/D	AlInGaN	470	water clear	36	90	110°	
APA1606PBC/A	InGaN	470	water clear	18	60	110°	
APA1606PBC/Z	InGaN	465	water clear	110	200	110°	
APA1606RWF/A	InGaN	-	yellow fluorescent	50	150	110°	
				X=0.31,Y=0.31			
APA2106SURCK	InGaAlP	635	water clear	110	250	120°	2.1mm x 0.6mm x 1.0mm (0802 Right Angle)
APA2106SECK	InGaAlP	601	water clear	70	250	120°	
APA2106SYCK	InGaAlP	590	water clear	50	150	120°	
APA2106MGC	InGaAlP	568	water clear	36	80	120°	
APA2106CGCK	InGaAlP	570	water clear	18	60	120°	
APA2106ZGC	AlInGaN	525	water clear	70	250	120°	
APA2106VGC/A	InGaN	525	water clear	70	180	120°	
APA2106VGC/Z	InGaN	535	water clear	380	800	120°	
APA2106QBC/D	AlInGaN	470	water clear	36	90	120°	
APA2106PBC/A	InGaN	470	water clear	18	60	120°	
APA2106PBC/Z	InGaN	465	water clear	110	200	120°	
APA3010EC	GaAsP/GaP	625	water clear	4	15	120°	3.0mm x 1.0mm x 2.0mm (1104 Right Angle)
APA3010SRCPRV	GaAlAs	640	water clear	50	100	120°	
APA3010SURCK	InGaAlP	635	water clear	110	250	120°	
APA3010SECK	InGaAlP	601	water clear	70	250	120°	
APA3010YC	GaAsP/GaP	588	water clear	2.6	7	120°	
APA3010SYCK	InGaAlP	590	water clear	50	150	120°	
APA3010SGC	GaP	568	water clear	4	15	120°	
APA3010MGC	InGaAlP	568	water clear	36	80	120°	
APA3010CGCK	InGaAlP	570	water clear	18	60	120°	
APA3010ZGC	AlInGaN	525	water clear	70	250	120°	
APA3010VGC/A	InGaN	525	water clear	70	180	120°	
APA3010VGC/Z	InGaN	535	water clear	380	800	120°	
APA3010QBC/D	AlInGaN	470	water clear	36	90	120°	
APA3010PBC/A	InGaN	470	water clear	18	60	120°	
APA3010PBC/Z	InGaN	465	water clear	110	200	120°	
APA3010RWF/A	InGaN	-	yellow fluorescent	50	150	120°	
				X=0.31,Y=0.31			

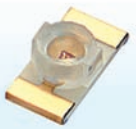




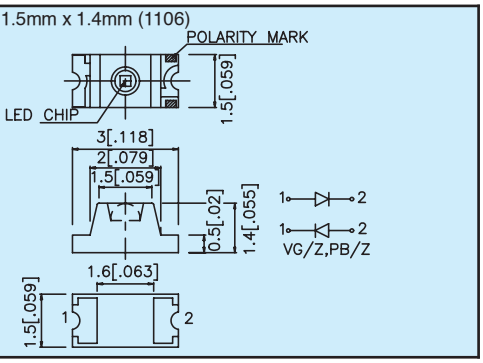


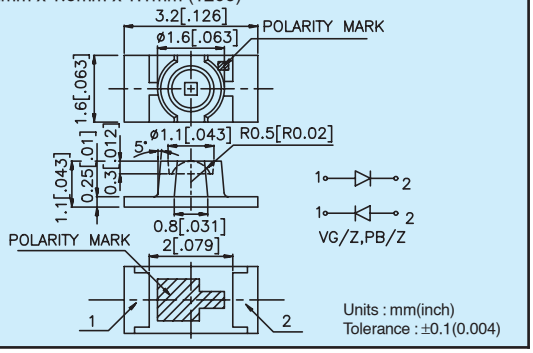


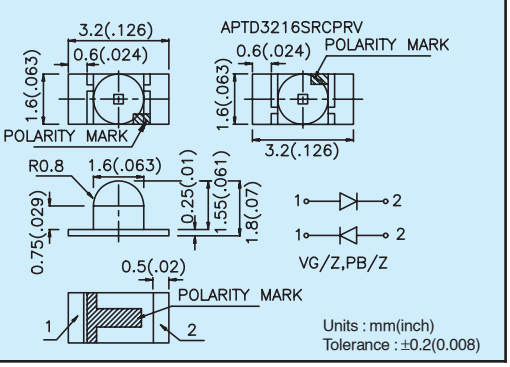
NOTES:
1.AP series custom-made is available upon request.
2.Measurement tolerance of the chromaticity coordinates is ±0.01 for flat lens types and ±0.02 for domed lens types. Typical measurement condition: IF=20mA, Ta=25°C.

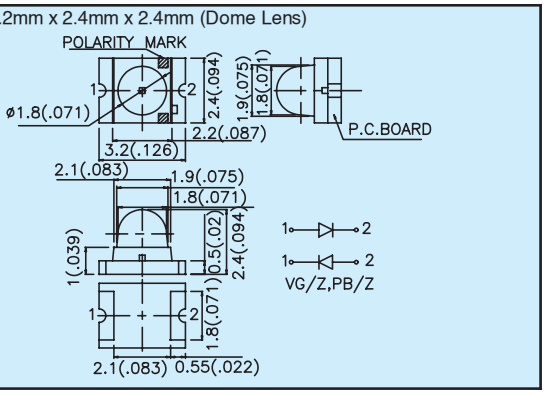
APL3015xxx-F01	APTL3216	APTD3216	APD3224xxx-F01
			

Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.	2θ1/2	
APL3015EC-F01	GaAsP/GaP	625	water clear	4	20	70°	3.0mm x 1.5mm x 1.4mm (1106)
APL3015SRCPRV-F01	GaAlAs	640	water clear	50	150	70°	
APL3015SURCK-F01	InGaAlP	635	water clear	70	240	70°	
APL3015SECK-F01	InGaAlP	601	water clear	70	300	70°	
APL3015SYCK-F01	InGaAlP	590	water clear	36	150	70°	
APL3015SGC-F01	GaP	568	water clear	4	20	70°	
APL3015MGC-F01	InGaAlP	568	water clear	70	140	70°	
APL3015CGCK-F01	InGaAlP	570	water clear	36	90	70°	
APL3015ZGC-F01	AlInGaN	525	water clear	380	850	70°	
APL3015VGC/A-F01	InGaN	525	water clear	110	300	70°	
APL3015VGC/Z-F01	InGaN	535	water clear	1200	1800	70°	
APL3015QBC/D-F01	AlInGaN	470	water clear	70	180	70°	
APL3015PBC/A-F01	InGaN	470	water clear	50	120	70°	
APL3015PBC/Z-F01	InGaN	465	water clear	110	380	70°	
APTL3216SURCK	InGaAlP	635	water clear	280	550	70°	3.2mm x 1.6mm x 1.1mm (1206)
APTL3216SECK	InGaAlP	601	water clear	380	550	70°	
APTL3216SYCK	InGaAlP	590	water clear	110	350	70°	
APTL3216CGCK	InGaAlP	570	water clear	70	200	70°	
APTL3216ZGC	AlInGaN	525	water clear	650	1100	70°	
APTL3216VGC/A	InGaN	525	water clear	280	450	70°	
APTL3216VGC/Z	InGaN	535	water clear	1500	2200	70°	
APTL3216QBC/D	AlInGaN	470	water clear	180	340	70°	
APTL3216PBC/A	InGaN	470	water clear	50	200	70°	
APTL3216PBC/Z	InGaN	465	water clear	280	450	70°	
APTD3216EC	GaAsP/GaP	625	water clear	10	50	40°	3.2mm x 1.6mm x 1.8mm (1206 Dome Lens)
APTD3216SRCPRV	GaAlAs	640	water clear	110	300	50°	
APTD3216SURCK	InGaAlP	635	water clear	180	500	50°	
APTD3216SECK	InGaAlP	601	water clear	280	700	50°	
APTD3216YC	GaAsP/GaP	588	water clear	4	30	40°	
APTD3216SYCK	InGaAlP	590	water clear	70	250	50°	
APTD3216SGC	GaP	568	water clear	10	50	40°	
APTD3216MGC	InGaAlP	568	water clear	110	350	50°	
APTD3216CGCK	InGaAlP	570	water clear	70	200	50°	
APTD3216ZGC	AlInGaN	525	water clear	380	850	50°	
APTD3216VGC/A	InGaN	525	water clear	280	800	50°	
APTD3216VGC/Z	InGaN	535	water clear	2200	5000	50°	
APTD3216QBC/D	AlInGaN	470	water clear	280	500	40°	
APTD3216PBC/A	InGaN	470	water clear	70	220	50°	
APTD3216PBC/Z	InGaN	465	water clear	650	1200	50°	
APTD3216RWF/A	InGaN	-	yellow fluorescent	70	150	175°	
				X=0.31,Y=0.31			
APD3224EC-F01	GaAsP/GaP	625	water clear	36	70	20°	3.2mm x 2.4mm x 2.4mm (Dome Lens)
APD3224SURCK-F01	InGaAlP	635	water clear	480	1000	20°	
APD3224SECK-F01	InGaAlP	601	water clear	650	1300	20°	
APD3224YC-F01	GaAsP/GaP	588	water clear	10	40	20°	
APD3224SYCK-F01	InGaAlP	590	water clear	110	600	20°	
APD3224SGC-F01	GaP	568	water clear	18	70	20°	
APD3224CGCK-F01	InGaAlP	570	water clear	180	550	20°	
APD3224ZGC-F01	AlInGaN	525	water clear	1200	2400	20°	
APD3224VGC/A-F01	InGaN	525	water clear	480	1000	20°	
APD3224VGC/Z-F01	InGaN	535	water clear	3800	6000	20°	
APD3224QBC/D-F01	AlInGaN	470	water clear	480	900	20°	
APD3224PBC/A-F01	InGaN	470	water clear	110	380	20°	
APD3224PBC/Z-F01	InGaN	465	water clear	1200	2000	20°	

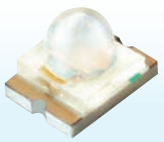
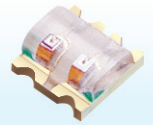








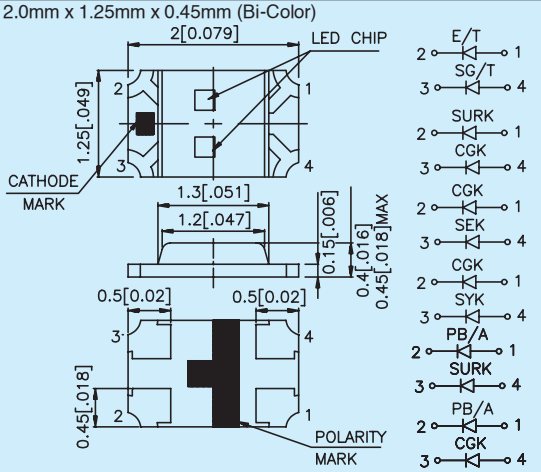
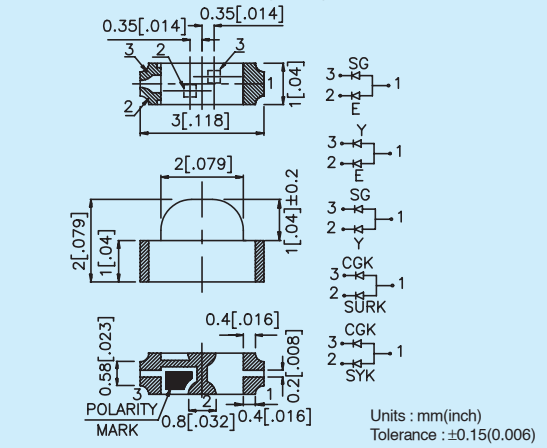
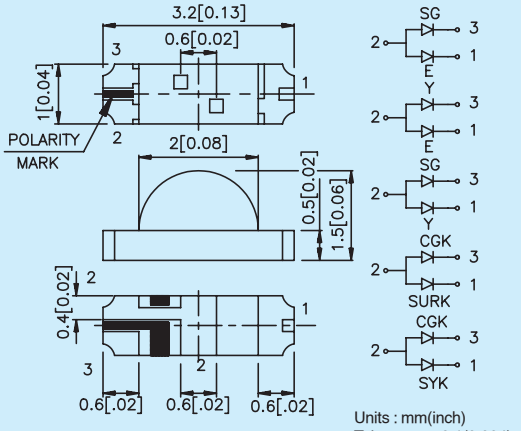
NOTES:
1.AP series custom-made is available upon request.
2.Measurement tolerance of the chromaticity coordinates is ±0.01 for flat lens types and ±0.02 for domed lens types. Typical measurement condition: IF=20mA,Ta=25°C.

APED3528xxx-F01	APED3820xxx-F01	APTB1612xxx-F01	APTB1615xxx-F01
			

Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.	2θ1/2	
APED3528SURCK-F01	InGaAlP	635	water clear	110	450	40°	3.5mm x 2.8mm x 3.2mm (Dome Lens)
APED3528SECK-F01	InGaAlP	601	water clear	280	550	40°	
APED3528SYCK-F01	InGaAlP	590	water clear	70	200	40°	
APED3528CGCK-F01	InGaAlP	570	water clear	70	170	40°	
APED3528ZGC-F01	AlInGaN	525	water clear	480	1400	40°	
APED3528VGC/A-F01	InGaN	525	water clear	110	300	40°	
APED3528VGC/Z-F01	InGaN	535	water clear	1200	2500	40°	
APED3528QBC/D-F01	AlInGaN	470	water clear	280	500	40°	
APED3528PBC/A-F01	InGaN	470	water clear	50	150	40°	
APED3528PBC/Z-F01	InGaN	465	water clear	380	600	40°	
APED3820SURCK-F01	InGaAlP	635	water clear	180	450	60°(H) 35°(V)	3.8mm x 2.0mm x 3.2mm (Dome Lens)
APED3820SECK-F01	InGaAlP	601	water clear	280	600	60°(H) 35°(V)	
APED3820SYCK-F01	InGaAlP	590	water clear	70	200	60°(H) 35°(V)	
APED3820CGCK-F01	InGaAlP	570	water clear	70	170	60°(H) 35°(V)	
APED3820ZGC-F01	AlInGaN	525	water clear	480	1200	60°(H) 35°(V)	
APED3820VGC/A-F01	InGaN	525	water clear	180	450	60°(H) 35°(V)	
APED3820VGC/Z-F01	InGaN	535	water clear	2200	2800	60°(H) 35°(V)	
APED3820QBC/D-F01	AlInGaN	470	water clear	110	300	60°(H) 35°(V)	
APED3820PBC/A-F01	InGaN	470	water clear	50	150	60°(H) 35°(V)	
APED3820PBC/Z-F01	InGaN	465	water clear	380	650	60°(H) 35°(V)	
APTB1612ESGC-F01	GaAsP/GaP	625	water clear	4	12	120°	1.6mm x 1.25mm x 0.65mm (0605 Bi-Color)
	GaP	568		4	12		
APTB1612YSGC-F01	GaAsP/GaP	588	water clear	2.6	8	120°	
	GaP	568		4	12		
APTB1612SURKCGKC-F01	InGaAlP	635	water clear	70	150	120°	
	InGaAlP	570		18	50		
APTB1612SURKQBDC-F01	InGaAlP	635	water clear	70	150	120°	
	AlInGaN	470		50	90		
APTB1612SYKCGKC-F01	InGaAlP	590	water clear	36	100	120°	
	InGaAlP	570		18	50		
APTB1615ESGC-F01	GaAsP/GaP	625	water clear	4	12	120°	1.6mm x 1.5mm x 0.7mm (0606 Bi-Color)
	GaP	568		4	12		
APTB1615YSGC-F01	GaAsP/GaP	588	water clear	2.6	8	120°	
	GaP	568		4	12		
APTB1615SURKCGKC-F01	InGaAlP	635	water clear	70	150	120°	
	InGaAlP	570		18	50		
APTB1615SYKCGKC-F01	InGaAlP	590	water clear	36	100	120°	
	InGaAlP	570		18	50		

NOTE:
1.AP series custom-made is available upon request.

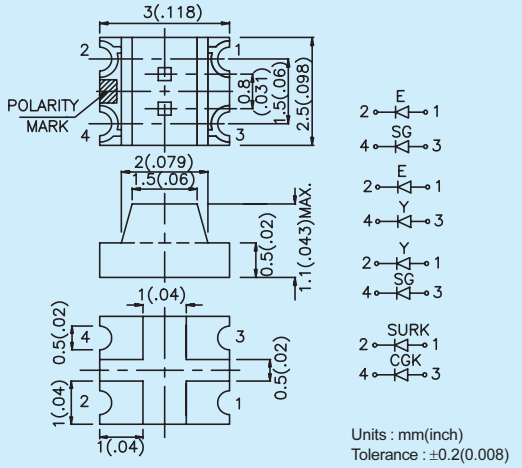
APHBM2012	APBA3010xxx-F01	APBA3210xxx-F01
		

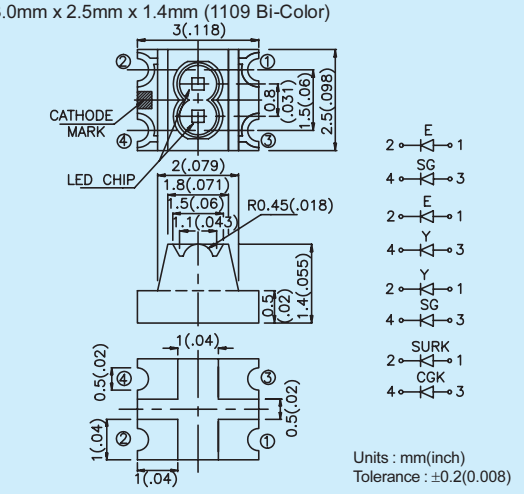
Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.	2θ1/2	
APHBM2012ETSGTC	GaAsP/GaP	625	water clear	4	17	120°	2.0mm x 1.25mm x 0.45mm (Bi-Color)  Units : mm(inch) Tolerance : ±0.1(0.004)
	GaP	568		7	20		
APHBM2012SURKCGKC	InGaAlP	635	water clear	70	200	120°	
	InGaAlP	570		36	80		
APHBM2012CGKSEKC	InGaAlP	570	water clear	36	80	120°	
	InGaAlP	601		110	250		
APHBM2012CGKSYKC	InGaAlP	570	water clear	36	80	120°	
	InGaAlP	590		50	150		
APHBM2012PBASURKC	InGaN	470	water clear	18	50	120°	
	InGaAlP	635		70	200		
APHBM2012PBACGKC	InGaN	470	water clear	18	50	120°	
	InGaAlP	570		36	80		
APBA3010ESGC-F01	GaAsP/GaP	625	water clear	4	12	140°	3.0mm x 1.0mm x 2mm (1104 Right Angle, Bi-Color)  Units : mm(inch) Tolerance : ±0.15(0.006)
	GaP	568		4	12		
APBA3010EYC-F01	GaAsP/GaP	625	water clear	4	12	140°	
	GaAsP/GaP	588		2.6	6		
APBA3010YSGC-F01	GaAsP/GaP	588	water clear	2.6	6	140°	
	GaP	568		4	12		
APBA3010SURKCGKC-F01	InGaAlP	635	water clear	110	200	140°	
	InGaAlP	570		18	50		
APBA3010SYKCGKC-F01	InGaAlP	590	water clear	50	150	140°	
	InGaAlP	570		18	50		
APBA3210ESGC-F01	GaAsP/GaP	625	water clear	4	12	120°	3.2mm x 1.0mm x 1.5mm (1304 Right Angle, Bi-Color)  Units : mm(inch) Tolerance : ±0.1(0.004)
	GaP	568		4	12		
APBA3210EYC-F01	GaAsP/GaP	625	water clear	4	12	120°	
	GaAsP/GaP	588		2.6	8		
APBA3210YSGC-F01	GaAsP/GaP	588	water clear	2.6	8	120°	
	GaP	568		4	12		
APBA3210SURKCGKC-F01	InGaAlP	635	water clear	110	200	120°	
	InGaAlP	570		18	50		
APBA3210SYKCGKC-F01	InGaAlP	590	water clear	50	150	120°	
	InGaAlP	570		18	50		

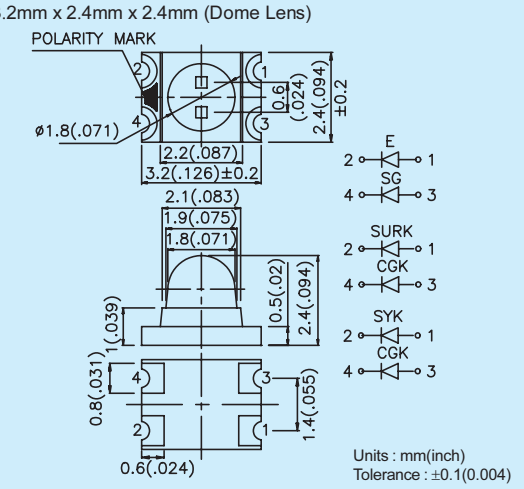
NOTE:
1.AP series custom-made is available upon request.

APB3025xxx-F01	APBL3025xxx-F01	APBD3224xxx-F01
		

Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.	2θ1/2	
APB3025ESGC-F01	GaAsP/GaP	625	water clear	4	12	120°	3.0mm x 2.5mm x 1.1mm (1109 Bi-Color)
	GaP	568		4	12		
APB3025EYC-F01	GaAsP/GaP	625	water clear	4	12	120°	
	GaAsP/GaP	588		2.6	8		
APB3025YSGC-F01	GaAsP/GaP	588	water clear	2.6	8	120°	
	GaP	568		4	12		
APB3025SURKCGKC-F01	InGaAlP	635	water clear	50	160	120°	
	InGaAlP	570		18	50		
APBL3025ESGC-F01	GaAsP/GaP	625	water clear	7	20	100°	3.0mm x 2.5mm x 1.4mm (1109 Bi-Color)
	GaP	568		7	20		
APBL3025EYC-F01	GaAsP/GaP	625	water clear	7	20	100°	
	GaAsP/GaP	588		4	15		
APBL3025YSGC-F01	GaAsP/GaP	588	water clear	4	15	100°	
	GaP	568		7	20		
APBL3025SURKCGK-F01	InGaAlP	635	water clear	110	300	100°	
	InGaAlP	570		36	80		
APBD3224ESGC-F01	GaAsP/GaP	625	water clear	18	60	20°	3.2mm x 2.4mm x 2.4mm (Dome Lens)
	GaP	568		10	40		
APBD3224SURKCGKC-F01	InGaAlP	635	water clear	380	800	20°	
	InGaAlP	570		110	300		
APBD3224SYKCGKC-F01	InGaAlP	590	water clear	110	500	20°	
	InGaAlP	570		110	300		



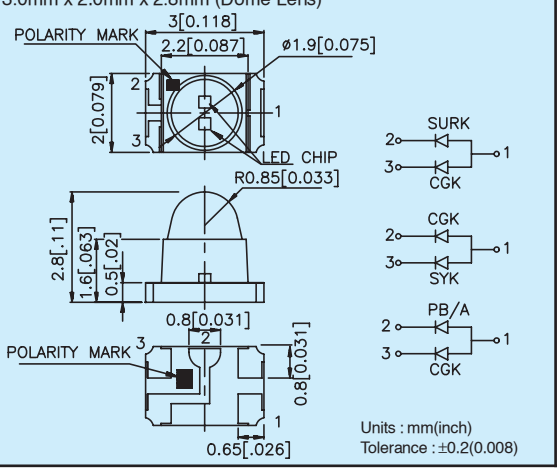


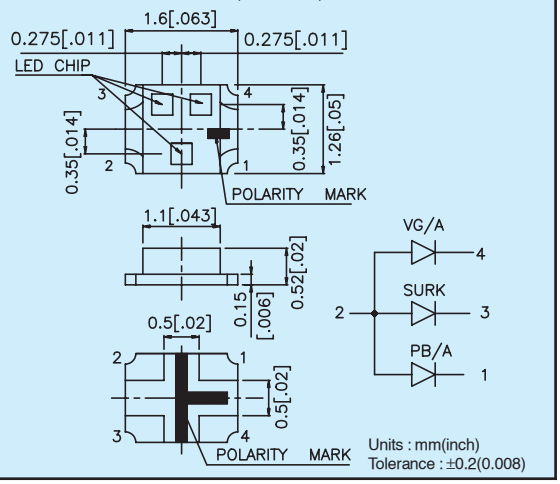


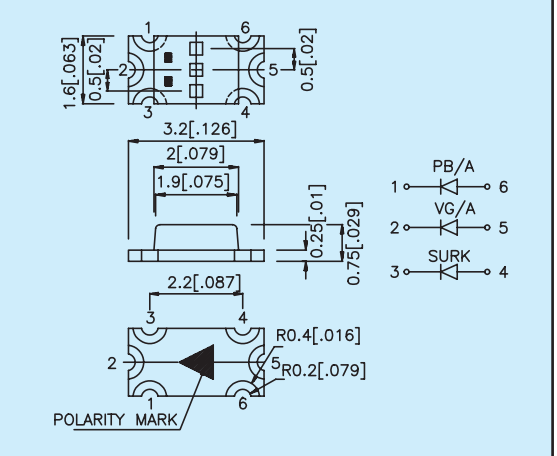
NOTE:
1.AP series custom-made is available upon request.

APBDA3020	APHFT1612	APTF3216
		

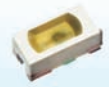
Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.	2θ1/2	
APBDA3020SURKCGKC	InGaAlP	635	water clear	650	900	15°	3.0mm x 2.0mm x 2.8mm (Dome Lens)
	InGaAlP	570		180	320		
APBDA3020CGKSYKC	InGaAlP	570	water clear	180	320	15°	
	InGaAlP	590		480	750		
APBDA3020PBACGKC	InGaN	470	water clear	110	220	15°	
	InGaAlP	570		180	320		
APHFT1612PBASURKVGAC	InGaN	470	water clear	18	60	120°	1.6mm x 1.26mm x 0.52mm (Full Color)
	InGaAlP	635		70	150		
	InGaN	525		70	180		
APTF3216PBAVGASUK	InGaN	470	water clear	18	60	120°	3.2mm x 1.6mm x 0.75mm (Full Color)
	InGaN	525		50	150		
	InGaAlP	635		70	150		



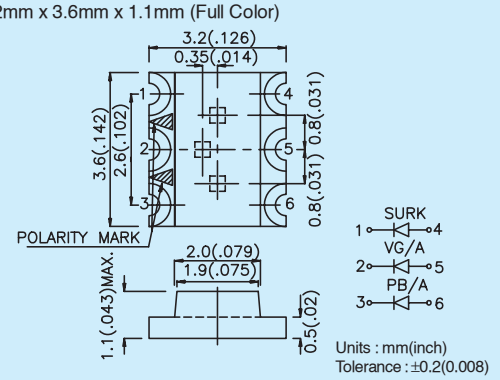




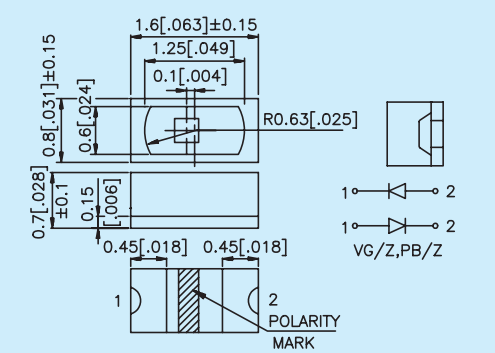
NOTE:
1.AP series custom-made is available upon request.

APF3236	APHK1608	APTK2012xxx-F01
		

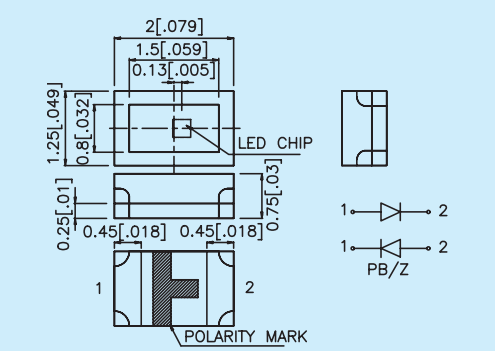
Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.	2θ1/2	
APF3236SURKVGAPBA	InGaAlP	635		70	150		3.2mm x 3.6mm x 1.1mm (Full Color)
	InGaN	525	water clear	50	150	120°	
	InGaN	470		18	60		



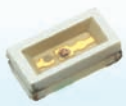
APHK1608SURCK	InGaAlP	635	water clear	70	200	90°	1.6mm x 0.8mm x 0.7mm (0603)
APHK1608SECK	InGaAlP	601	water clear	70	250	90°	
APHK1608SYCK	InGaAlP	590	water clear	36	120	90°	
APHK1608CGCK	InGaAlP	570	water clear	18	60	90°	
APHK1608ZGC	AlInGaN	525	water clear	110	300	90°	
APHK1608VGC/A	InGaN	525	water clear	70	200	90°	
APHK1608VGC/Z	InGaN	535	water clear	480	1000	90°	
APHK1608QBC/D	AlInGaN	470	water clear	50	120	90°	
APHK1608PBC/A	InGaN	470	water clear	36	70	90°	
APHK1608PBC/Z	InGaN	465	water clear	70	260	90°	
APHK1608RWC/A	InGaN	-	water clear	70	200	90°	
				X=0.31,Y=0.31			
APHK1608RWC/Z	InGaN	-	water clear	650	1100	90°	
				X=0.31,Y=0.31			



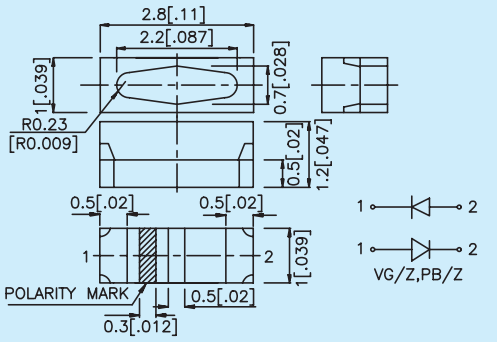
APTK2012SURCK-F01	InGaAlP	635	water clear	70	200	100°	2.0mm x 1.25mm x 0.75mm (0805)
APTK2012SECK-F01	InGaAlP	601	water clear	70	250	100°	
APTK2012SYCK-F01	InGaAlP	590	water clear	36	120	100°	
APTK2012CGCK-F01	InGaAlP	570	water clear	18	60	100°	
APTK2012ZGC-F01	AlInGaN	525	water clear	110	300	100°	
APTK2012VGC/A-F01	InGaN	525	water clear	70	200	100°	
APTK2012QBC/D-F01	AlInGaN	470	water clear	50	120	100°	
APTK2012PBC/A-F01	InGaN	470	water clear	36	70	100°	
APTK2012RWC/A-F01	InGaN	-	water clear	70	200	100°	
				X=0.31,Y=0.31			
APTK2012RWC/Z-F01	InGaN	-	water clear	650	1100	100°	
				X=0.31,Y=0.31			



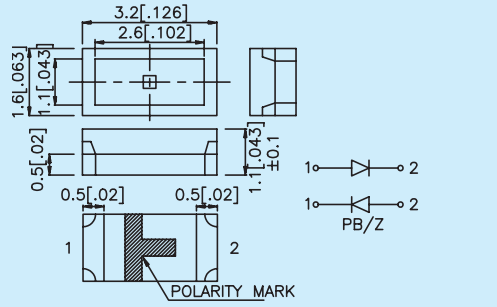
NOTES:
1.AP series custom-made is available upon request.
2.Measurement tolerance of the chromaticity coordinates is ±0.01 for flat lens types and ±0.02 for domed lens types. Typical measurement condition: IF=20mA, Ta=25°C.

APKA2810xxx-F01	APK3216xxx-F01	APKA4110xxx-F01
		

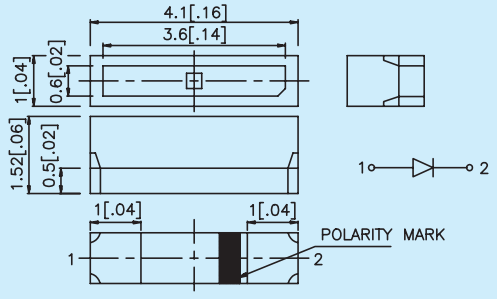
Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.	2θ1/2	
APKA2810SURCK-F01	InGaAlP	635	water clear	70	200	90°	2.8mm x 1.0mm x 1.2mm (1104 Right Angle)
APKA2810SECK-F01	InGaAlP	601	water clear	70	250	90°	
APKA2810SYCK-F01	InGaAlP	590	water clear	36	120	90°	
APKA2810CGCK-F01	InGaAlP	570	water clear	18	60	90°	
APKA2810ZGC-F01	AlInGaN	525	water clear	110	300	90°	
APKA2810VGC/A-F01	InGaN	525	water clear	70	200	90°	
APKA2810VGC/Z-F01	InGaN	535	water clear	480	1000	90°	
APKA2810QBC/D-F01	AlInGaN	470	water clear	50	120	90°	
APKA2810PBC/A-F01	InGaN	470	water clear	36	70	90°	
APKA2810PBC/Z-F01	InGaN	465	water clear	70	260	90°	
APKA2810RWC/A-F01	InGaN	-	water clear	70	200	90°	
				X=0.31,Y=0.31			
APK3216SURCK-F01	InGaAlP	635	water clear	70	200	90°	3.2mm x 1.6mm x 1.1mm(1206)
APK3216SECK-F01	InGaAlP	601	water clear	70	250	90°	
APK3216SYCK-F01	InGaAlP	590	water clear	36	120	90°	
APK3216CGCK-F01	InGaAlP	570	water clear	18	60	90°	
APK3216ZGC-F01	AlInGaN	525	water clear	110	300	90°	
APK3216VGC/A-F01	InGaN	525	water clear	70	200	90°	
APK3216QBC/D-F01	AlInGaN	470	water clear	50	120	90°	
APK3216PBC/A-F01	InGaN	470	water clear	36	70	90°	
APK3216RWC/A-F01	InGaN	-	water clear	70	200	90°	
				X=0.31,Y=0.31			
APK3216RWC/Z-F01	InGaN	-	water clear	650	1100	90°	
				X=0.31,Y=0.31			
APKA4110SURCK-F01	InGaAlP	635	water clear	70	200	90°	4.1mm x 1.0mm x 1.52mm (1604 Right Angle)
APKA4110SECK-F01	InGaAlP	601	water clear	70	250	90°	
APKA4110SYCK-F01	InGaAlP	590	water clear	36	120	90°	
APKA4110CGCK-F01	InGaAlP	570	water clear	18	60	90°	
APKA4110ZGC-F01	AlInGaN	525	water clear	110	300	90°	
APKA4110VGC/A-F01	InGaN	525	water clear	70	200	90°	
APKA4110QBC/D-F01	AlInGaN	470	water clear	50	120	90°	
APKA4110PBC/A-F01	InGaN	470	water clear	36	70	90°	



Units : mm(inch)
Tolerance : ±0.25(0.01)



Units : mm(inch)
Tolerance : ±0.2(0.008)

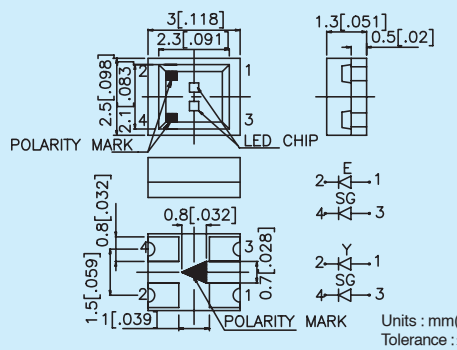


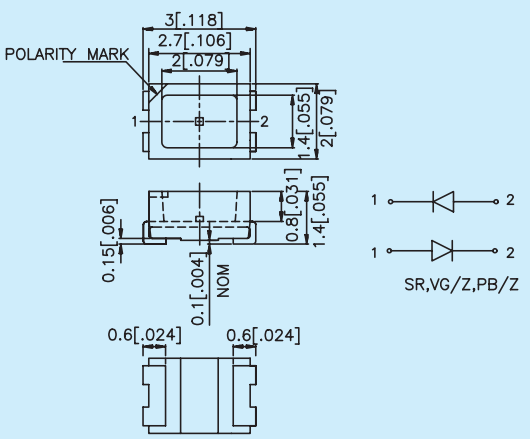
Units : mm(inch)
Tolerance : ±0.25(0.01)

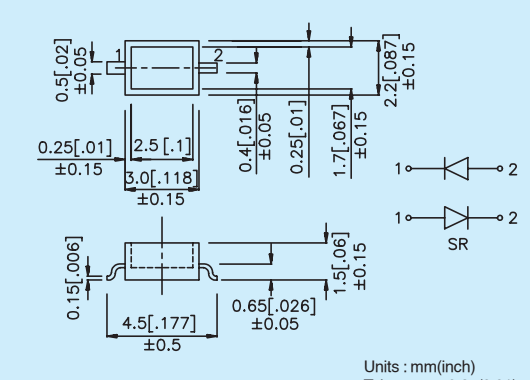
NOTES:
1.AP series custom-made is available upon request.
2.Measurement tolerance of the chromaticity coordinates is ±0.01 for flat lens types and ±0.02 for domed lens types. Typical measurement condition: IF=20mA, Ta=25°C.

APKB3025xxx-F01	AA3020A	AA3022-4.5SF
		

Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA*50mA **30mA		Viewing Angle	Dimension
				Min.	Typ.	2θ1/2	
APKB3025ESGC-F01	GaAsP/GaP	625	water clear	10	20	120°	3.0mm x 2.5mm x 1.3mm (1109 Bi-Color)
	GaP	568		10	20		
APKB3025YSGC-F01	GaAsP/GaP	588	water clear	2.6	8	120°	
	GaP	568		10	20		
AA3020AEC	GaAsP/GaP	625	water clear	7	20	90°	3.0mm x 2.0mm (1208)
AA3020ASRC	GaAlAs	640	water clear	36	120	90°	
AA3020ASURCK	InGaAlP	635	water clear	70	200	90°	
AA3020ASECK	InGaAlP	601	water clear	70	150	90°	
AA3020AYC	GaAsP/GaP	588	water clear	4	15	90°	
AA3020ASYCK	InGaAlP	590	water clear	36	100	90°	
AA3020ASGC	GaP	568	water clear	7	30	90°	
AA3020AMGC	InGaAlP	568	water clear	36	80	90°	
AA3020ACGCK	InGaAlP	570	water clear	18	60	90°	
AA3020AZGC	AlInGaN	525	water clear	110	250	90°	
AA3020AVGC/A	InGaN	525	water clear	70	150	90°	
AA3020AVGC/Z	InGaN	535	water clear	650	1000	90°	
AA3020AQBC/D	AlInGaN	470	water clear	70	160	90°	
AA3020APBC/A	InGaN	470	water clear	18	60	90°	
AA3020APBC/Z	InGaN	465	water clear	70	280	90°	
AA3020ARWC/A	InGaN	-	water clear	70	150	90°	
				X=0.31,Y=0.31			
AA3020ARWC/Z	InGaN	-	water clear	480	1000	90°	
				X=0.31,Y=0.31			
AA3022EC-4.5SF	GaAsP/GaP	625	water clear	7	30	90°	3.0mm x 2.2mm
AA3022SRC-4.5SF	GaAlAs	640	water clear	36	150	90°	
AA3022YC-4.5SF	GaAsP/GaP	588	water clear	4	10	90°	
AA3022SGC-4.5SF	GaP	568	water clear	7	20	90°	



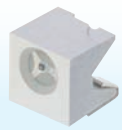




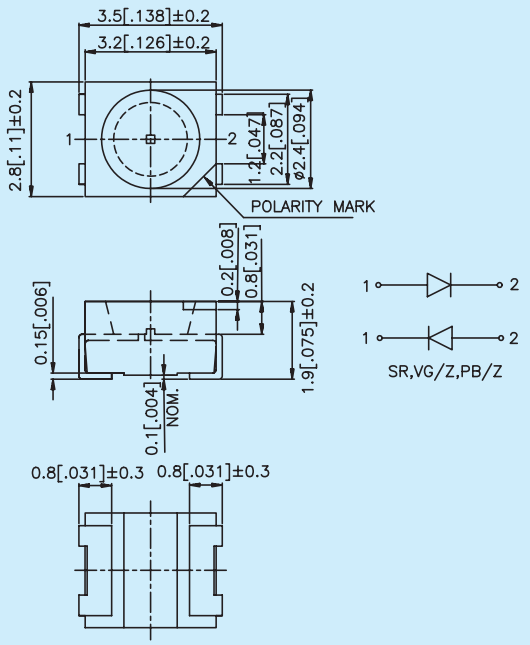
NOTES:
1.AP series custom-made is available upon request.
2.Measurement tolerance of the chromaticity coordinates is ±0.01 for flat lens types and ±0.02 for domed lens types. Typical measurement condition: IF=20mA, Ta=25°C.

AA3528A

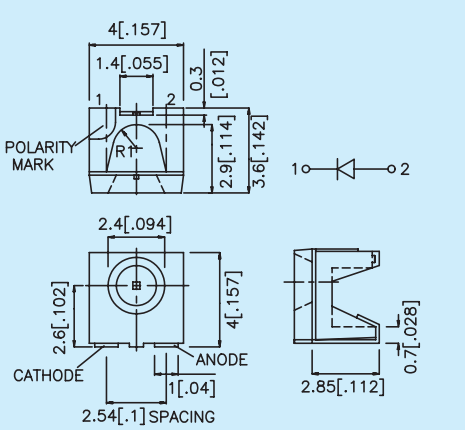
AA4040



Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.	2θ1/2	
AA3528AEC	GaAsP/GaP	625	water clear	7	30	120°	3.5mm x 2.8mm
AA3528ASRC	GaAlAs	640	water clear	50	150	120°	
AA3528ASURCK	InGaAlP	635	water clear	70	200	120°	
AA3528ASECK	InGaAlP	601	water clear	70	300	120°	
AA3528AYC	GaAsP/GaP	588	water clear	4	15	120°	
AA3528ASYCK	InGaAlP	590	water clear	50	150	120°	
AA3528ASGC	GaP	568	water clear	10	25	120°	
AA3528AMGC	InGaAlP	568	water clear	70	150	120°	
AA3528ACGCK	InGaAlP	570	water clear	18	60	120°	
AA3528AZGC	AlInGaN	525	water clear	110	250	120°	
AA3528AVGC/A	InGaN	525	water clear	110	220	120°	
AA3528AVGC/Z	InGaN	535	water clear	480	950	120°	
AA3528AQBC/D	AlInGaN	470	water clear	70	200	120°	
AA3528APBC/A	InGaN	470	water clear	18	60	120°	
AA3528APBC/Z	InGaN	465	water clear	70	280	120°	
AA3528ARWC/A	InGaN	-	water clear	70	150	120°	
				X=0.31,Y=0.31			
AA3528ARWC/Z	InGaN	-	water clear	480	1000	120°	
				X=0.31,Y=0.31			



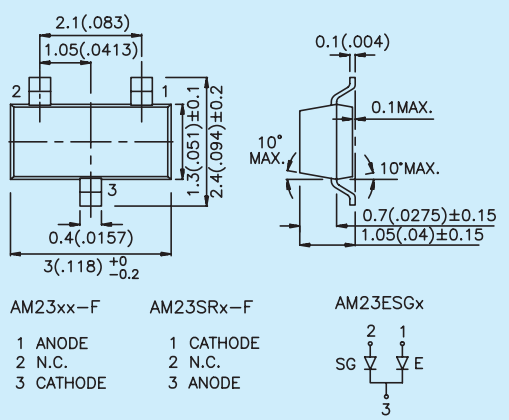
AA4040SRC	GaAlAs	640	water clear	50	120	90°	4.0mm x 4.0mm Right Angle
AA4040SURCK	InGaAlP	635	water clear	70	180	90°	
AA4040SECK	InGaAlP	601	water clear	70	200	90°	
AA4040SYCK	InGaAlP	590	water clear	50	120	90°	
AA4040SGC	GaP	568	water clear	10	25	90°	
AA4040MGC	InGaAlP	568	water clear	50	100	90°	
AA4040CGCK	InGaAlP	570	water clear	36	70	90°	
AA4040ZGC	AlInGaN	525	water clear	480	800	90°	
AA4040VGC/A	InGaN	525	water clear	70	200	90°	
AA4040VGC/Z	InGaN	535	water clear	650	1300	90°	
AA4040QBC/D	AlInGaN	470	water clear	70	150	90°	
AA4040PBC/A	InGaN	470	water clear	36	120	90°	
AA4040PBC/Z	InGaN	465	water clear	110	280	90°	
AA4040RWC/A	InGaN	-	water clear	70	120	90°	
				X=0.31,Y=0.31			
AA4040RWC/Z	InGaN	-	water clear	650	1200	90°	
				X=0.31,Y=0.31			

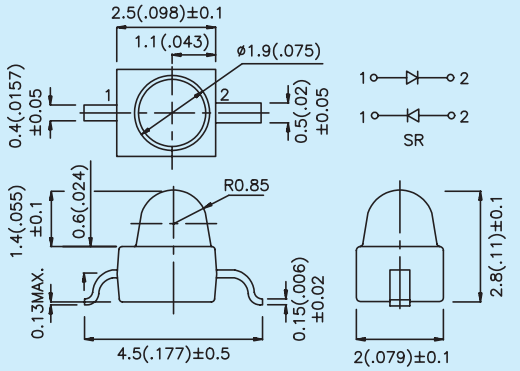


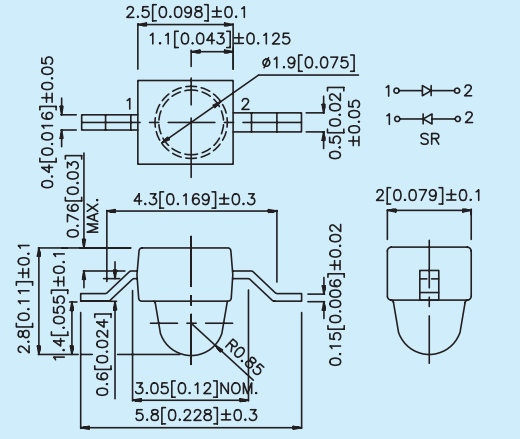
NOTES:
1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.
3. Measurement tolerance of the chromaticity coordinates is ±0.01 for flat lens types and ±0.02 for domed lens types. Typical measurement condition: IF=20mA,Ta=25°C.

AM23xxx-F	AM2520xxx03	AM2520xxx09
		

Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.	2θ1/2	
AM23ID-F	GaAsP/GaP	625	red diffused	4	15	140°	SOT-23 Surface Mount LED Lamp (3mm x 1.3mm)
AM23EC-F	GaAsP/GaP	625	water clear	4	15	140°	
AM23SRD-F	GaAlAs	640	red diffused	36	70	140°	
AM23SRC-F	GaAlAs	640	water clear	36	70	140°	
AM23YD-F	GaAsP/GaP	588	yellow diffused	1.6	5	140°	
AM23YC-F	GaAsP/GaP	588	water clear	1.6	5	140°	
AM23SYD-F	InGaAlP	588	yellow diffused	50	100	140°	
AM23SYC-F	InGaAlP	588	water clear	50	150	140°	
AM23SGD-F	GaP	568	green diffused	2.6	8	140°	
AM23SGC-F	GaP	568	water clear	4	15	140°	
AM23ESGW	GaAsP/GaP	625	white diffused	4	15	140°	
	GaP	568		4	15	140°	
AM23ESGC	GaAsP/GaP	625	water clear	4	15	140°	
	GaP	568		4	15	140°	
AM2520EC03	GaAsP/GaP	625	water clear	10	70	20°	Subminiature Solid State Lamps Gull Wing Lead
AM2520SRC03	GaAlAs	640	water clear	110	600	20°	
AM2520SURCK03	InGaAlP	635	water clear	480	1400	20°	
AM2520SECK03	InGaAlP	601	water clear	900	1800	20°	
AM2520YC03	GaAsP/GaP	588	water clear	10	30	20°	
AM2520SYCK03	InGaAlP	590	water clear	650	1300	20°	
AM2520SGC03	GaP	568	water clear	36	80	20°	
AM2520MGC03	InGaAlP	568	water clear	280	600	20°	
AM2520CGCK03	InGaAlP	570	water clear	110	400	20°	
AM2520ZGC03	AlInGaN	525	water clear	1800	3300	20°	
AM2520VGC/A03	InGaN	525	water clear	380	800	20°	
AM2520QBC/D03	AlInGaN	470	water clear	180	500	20°	
AM2520PBC/A03	InGaN	470	water clear	110	250	20°	
AM2520EC09	GaAsP/GaP	625	water clear	10	70	20°	Subminiature Solid State Lamps Z-Bend Lead
AM2520SRC09	GaAlAs	640	water clear	110	600	20°	
AM2520SURCK09	InGaAlP	635	water clear	480	1400	20°	
AM2520SECK09	InGaAlP	601	water clear	900	1800	20°	
AM2520YC09	GaAsP/GaP	588	water clear	10	30	20°	
AM2520SYCK09	InGaAlP	590	water clear	650	1300	20°	
AM2520SGC09	GaP	568	water clear	36	80	20°	
AM2520MGC09	InGaAlP	568	water clear	280	600	20°	
AM2520CGCK09	InGaAlP	570	water clear	110	400	20°	
AM2520ZGC09	AlInGaN	525	water clear	1800	3300	20°	
AM2520VGC/A09	InGaN	525	water clear	380	800	20°	
AM2520QBC/D09	AlInGaN	470	water clear	180	500	20°	
AM2520PBC/A09	InGaN	470	water clear	110	250	20°	







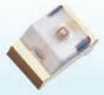
NOTES:
1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.

AM27xxx03	AM27xxx09	AA9219/2
		

Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.	2θ1/2	
AM27EC03	GaAsP/GaP	625	water clear	10	70	20°	Subminiature Solid State Lamps Gull Wing Lead
AM27SRC03	GaAlAs	640	water clear	110	600	20°	
AM27SURCK03	InGaAlP	635	water clear	480	1400	20°	
AM27SECK03	InGaAlP	601	water clear	900	1800	20°	
AM27YC03	GaAsP/GaP	588	water clear	10	30	20°	
AM27SYCK03	InGaAlP	590	water clear	650	1300	20°	
AM27SGC03	GaP	568	water clear	36	80	20°	
AM27MGC03	InGaAlP	568	water clear	280	600	20°	
AM27CGCK03	InGaAlP	570	water clear	110	400	20°	
AM27ZGC03	AlInGaN	525	water clear	1800	3300	20°	
AM27VGC/A03	InGaN	525	water clear	380	800	20°	
AM27QBC/D03	AlInGaN	470	water clear	180	500	20°	
AM27PBC/A03	InGaN	470	water clear	110	250	20°	
AM27EC09	GaAsP/GaP	625	water clear	10	70	20°	Subminiature Solid State Lamps Z-Bend Lead
AM27SRC09	GaAlAs	640	water clear	110	600	20°	
AM27SURCK09	InGaAlP	635	water clear	480	1400	20°	
AM27SECK09	InGaAlP	601	water clear	900	1800	20°	
AM27YC09	GaAsP/GaP	588	water clear	10	30	20°	
AM27SYCK09	InGaAlP	590	water clear	650	1300	20°	
AM27SGC09	GaP	568	water clear	36	80	20°	
AM27MGC09	InGaAlP	568	water clear	280	600	20°	
AM27CGCK09	InGaAlP	570	water clear	110	400	20°	
AM27ZGC09	AlInGaN	525	water clear	1800	3300	20°	
AM27VGC/A09	InGaN	525	water clear	380	800	20°	
AM27QBC/D09	AlInGaN	470	water clear	180	500	20°	
AM27PBC/A09	InGaN	470	water clear	110	250	20°	

Part No.	Material	λ D (nm)	Lens Type	Iv (mcd) @20mA		Viewing Angle	Dimension
				Min.	Typ.	2θ1/2	
AA9219/2EC	GaAsP/GaP	625	water clear	18	50	100°	9.2mm x 1.9mm
AA9219/2SRC	GaAlAs	640	water clear	70	200	100°	
AA9219/2YC	GaAsP/GaP	588	water clear	10	20	100°	
AA9219/2SGC	GaP	568	water clear	7	40	100°	

NOTES:
1. All dimensions are in millimeters(inches).
2. Tolerance is ±0.25mm(0.01") unless otherwise noted.

APT1608F3C(0603)	APT2012F3C(0805)	APA3010F3C(1104)	AA3528AF3C
			

Part No.	Material	λ P (nm)	Lens Type	Po (mW/sr) @20mA *50mA		Viewing Angle	Dimension
				Min.	Typ.	2θ1/2	
APT1608F3C	GaAs	940	water clear	0.4	1.2	120°	1.6mm x 0.8mm x 0.75mm (0603 Super Thin)
APT1608SF4C	GaAlAs	880	water clear	0.4	1	120°	
APT2012F3C	GaAs	940	water clear	0.4	1.2	120°	2.0mm x 1.25mm x 0.75mm (0805 Super Thin)
APT2012SF4C	GaAlAs	880	water clear	0.4	1	120°	
APA3010F3C	GaAs	940	water clear	0.4	1.2	120°	3.0mm x 1.0mm x 2.0mm (1104 Right Angle)
APA3010SF4C	GaAlAs	880	water clear	0.4	1	120°	
AA3528AF3C	GaAs	940	water clear	1.6	3	120°	3.5mm x 2.8mm
				*2.6	*8	120°	
AA3528ASF4C	GaAlAs	880	water clear	0.4	1.8	120°	
				*4	*8	120°	

NOTE:
1.AP series custom-made is available upon request.

APT1608P1C(0603)	APT2012P3BT(0805)	APA3010P3BT(1104)	AA3528AP3C
			

PHOTOTRANSISTORS

1.6mm x 0.8mm x 0.75mm (0603)

APT1608P1C WATER CLEAR LENS

2.0mm x 1.25mm x 0.75mm (0805)

APT2012P3BT BLUE TRANSPARENT LENS

3.0mm x 1.0mm x 2.0mm (1104)

APA3010P3BT BLUE TRANSPARENT LENS

3.5mm x 2.8mm

AA3528AP3C WATER CLEAR LENS

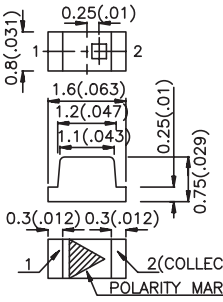
ABSOLUTE MAXIMUM RATING T_A=25°C

Parameter	Max. Ratings
Collector-to-Emitter Voltage	30V
Emitter-to-Collector Voltage	5V
Power Dissipation at (or below) 25°C Free Air Temperature	100mW
Operating Temperature Range	-40°C ~ +85°C
Storage Temperature Range	-40°C ~ +85°C

ELECTRICAL AND RADIANT CHARACTERISTICS T_A=25°C

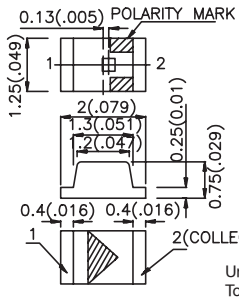
Symbol	Parameter	Part No.	Min.	Typ.	Max.	Unit	Test Condition
$V_{BR\ CEO}$	Collector-to-Emitter Breakdown Voltage	-	30	-	-	V	I_C =100μA Ee=0mW/cm²
$V_{BR\ ECO}$	Emitter-to-Collector Breakdown Voltage	-	5	-	-	V	I_E =100μA Ee=0mW/cm²
$V_{CE\ (SAT)}$	Collector-to-Emitter Saturation Voltage	-	-	-	0.8	V	I_C =2mA Ee=20mW/cm²
I_{CEO}	Collector Dark Current	-	-	-	100	nA	V_{CE} =10V Ee=0mW/cm²
T_R	Rise Time (10% to 90%)	-	-	15	-	μs	V_{CE} =5V I_C =1mA R_L =1KΩ
T_F	Fall Time (90% to 10%)	-	-	15	-	μs	
$I_{(ON)}$	On State Collector Current	APT1608P1C	0.1	0.3	-	mA	V_{CE} =5V, Ee=1mW/cm², λ=940nm
		APT2012P3BT	0.1	1.0			
		APA3010P3BT	0.2	0.8			
		AA3528AP3C	0.1	0.2			

APT1608P1C 1.6mm x 0.8mm x 0.75mm (0603)



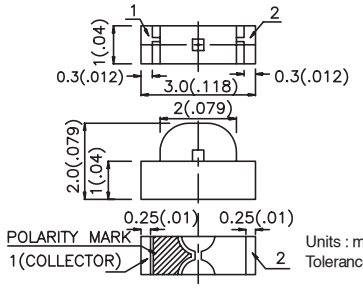
Units : mm(inch)
Tolerance : ±0.1(0.004)

APT2012P3BT 2.0mm x 1.25mm x 0.75mm (0805)



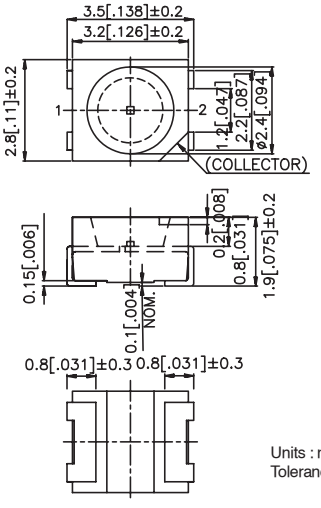
Units : mm(inch)
Tolerance : ±0.1(0.004)

APA3010P3BT 3.0mm x 1.0mm x 2.0mm (1104)

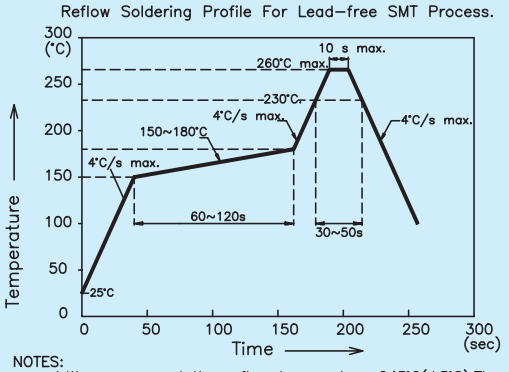


Units : mm(inch)
Tolerance : ±0.15(0.006)

AA3528AP3C 3.5mm x 2.8mm



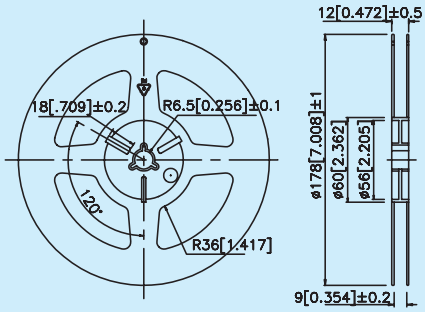
Units : mm(inch)
Tolerance : ±0.25(0.01)



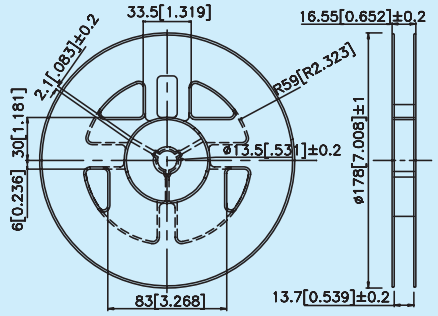
NOTES:
1.We recommend the reflow temperature 245°C(±5°C).The maximum soldering temperature should be limited to 260°C.
2.Don't cause stress to the epoxy resin while it is exposed to high temperature.
3.Number of reflow process shall be 2 times or less.

PART NO.	REEL DIMENSIOAN
APHH1005,APHHS1005,APT1608,APT2012, APHCM2012,AP23xxx/F-F01,APT3216,APTR3216,APA1606 APA2106,APA3010,APL3015xxx-F01,APTL3216,APTD3216 APD3224,APTB1612xxx-F01,APTB1615xxx-F01, APHBM2012,APBA3010xxx-F01,APBA3210xxx-F01, APB3025xxx-F01,APBL3025xxx-F01,APBD3224xxx-F01, APBDA3020,APHFT1612,APTF3216,APHK1608, APTK2012xxx-F01,APKA2810xxx-F01,APK3216xxx-F01, APKB3025xxx-F01,AA3020A,AM23-F	7"(for 8mm width tape)
ACDX04-41xxx-F01,ACPSX04-41xxx-F01, ACSX56-41xxx-F01	13"(for 32mm width tape)
APED3528xxx-F01,APED3820xxx-F01,APF3236, APKA4110xxx-F01,AA3022-4.5SF,AA3528A,AA4040, AM2520xxx03,AM2520xxx09,AM27xxx03,AM27xxx09,	7"(for 12mm width tape)
AAD1-1010,ACSX02-41xxx-F01,ACDX02-41xxx-F01 ACSX03-41xxx-F01,ACDX03-41xxx.-F01, ACSX04-41xxx-F01	13"(for 24mm width tape)
ACDX56-41xxx-F01,ACSX08-51	13"(for 44mm width tape)

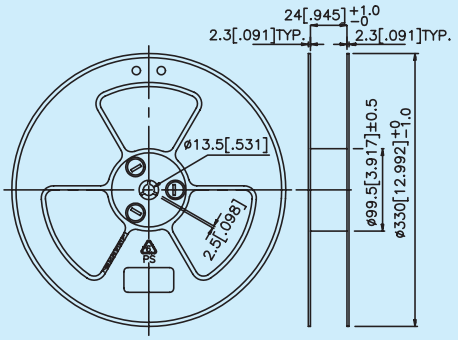
7"(for 8mm width tape)



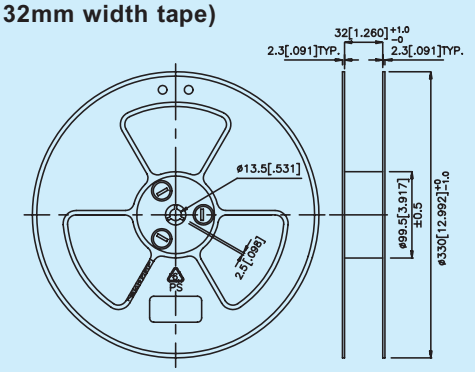
7"(for 12mm width tape)



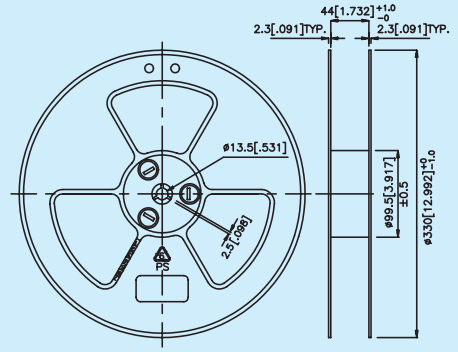
13"(for 24mm width tape)



13"(for 32mm width tape)



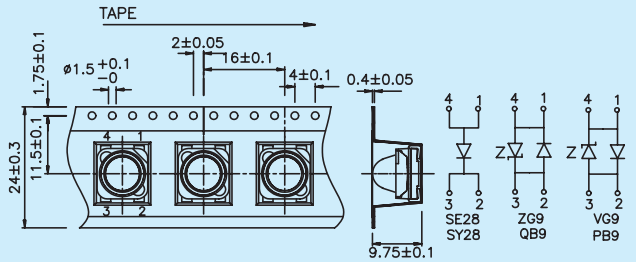
13"(for 44mm width tape)



NOTE:
1. All dimensions are in millimeters(inches).

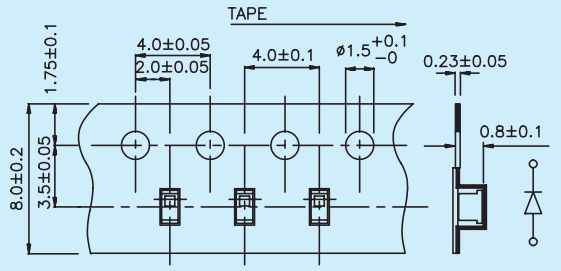
AAD1-1010

PACKAGE: 300PCS / REEL



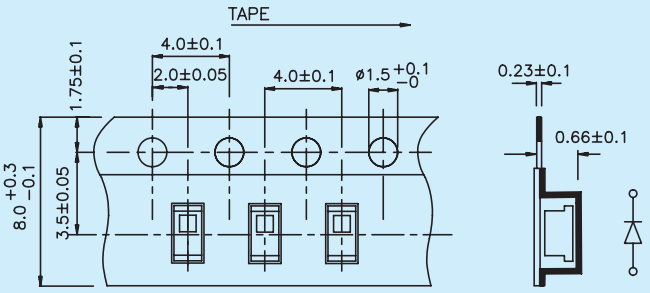
APHH1005

PACKAGE: 2000PCS / REEL



APHHS1005

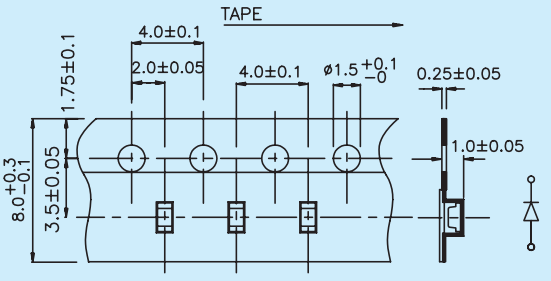
PACKAGE: 2000PCS / REEL



* PB/Z,VG/Z type polarity is opposite

APT1608

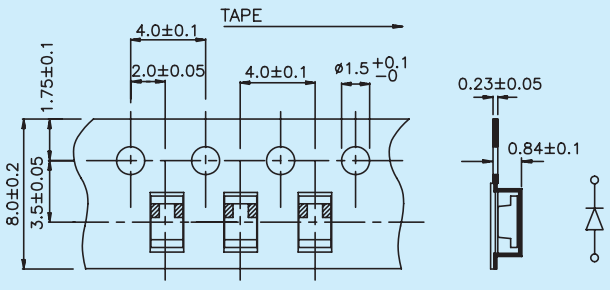
PACKAGE: 2000PCS / REEL



* PB/Z,VG/Z type polarity is opposite

APT2012

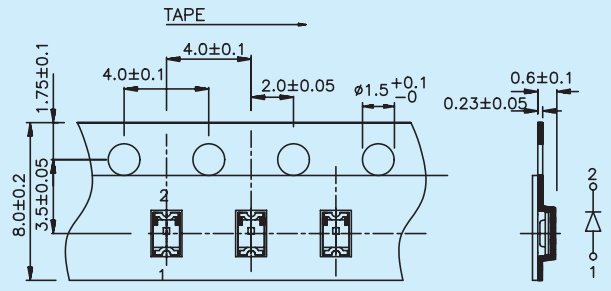
PACKAGE: 2000PCS / REEL



* PB/Z,VG/Z type polarity is opposite

APHCM2012xxx-F01

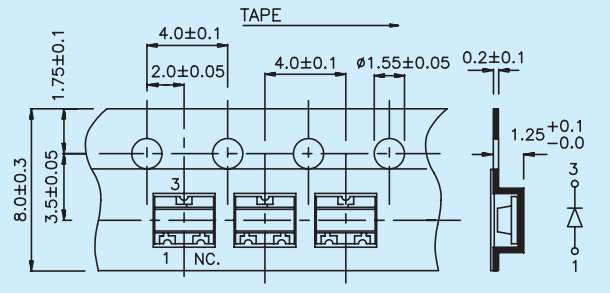
PACKAGE: 2000PCS / REEL



* PB/Z,VG/Z type polarity is opposite

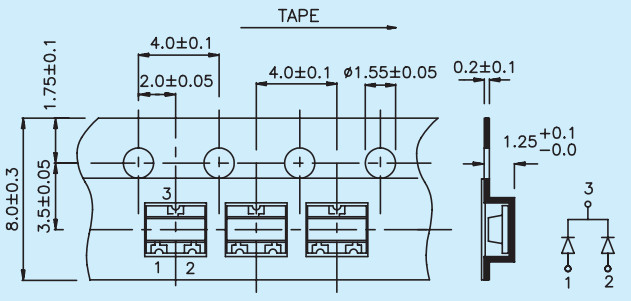
AP23xxx/F-F01

PACKAGE: 2000PCS / REEL



AP23xxxx-F01

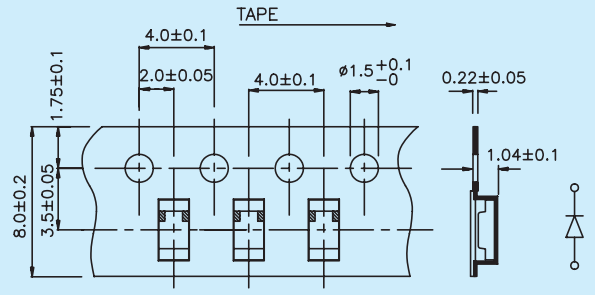
PACKAGE: 2000PCS / REEL



NOTE:
1. All dimensions are in millimeters.

APT3216

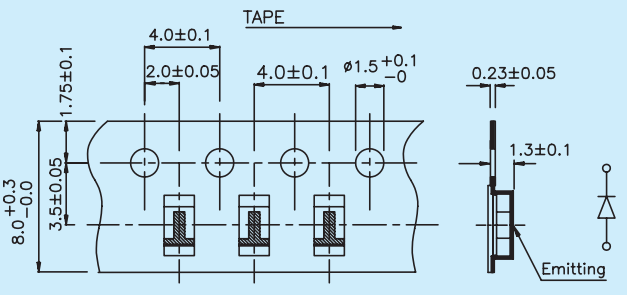
PACKAGE: 2000PCS / REEL



* PB/Z,VG/Z type polarity is opposite

APTR3216

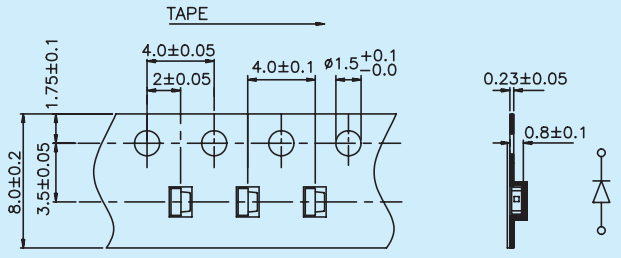
PACKAGE: 2000PCS / REEL



* PB/Z,VG/Z type polarity is opposite

APA1606

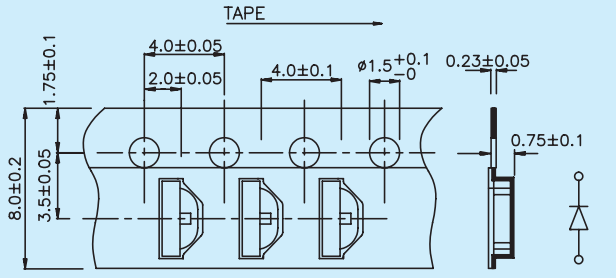
PACKAGE: 2000PCS / REEL



* PB/Z,VG/Z type polarity is opposite

APA2106

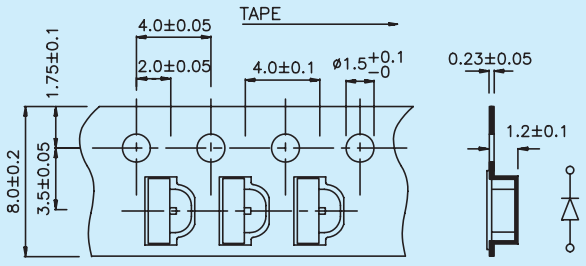
PACKAGE: 2000PCS / REEL



* PB/Z,VG/Z type polarity is opposite

APA3010

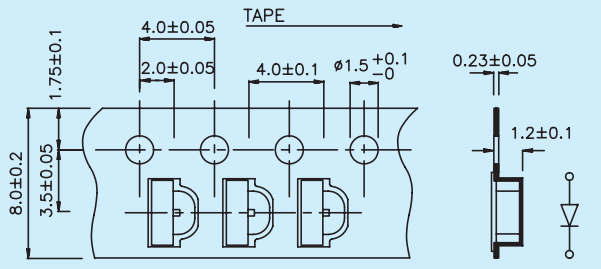
PACKAGE: 2000PCS / REEL



* PB/Z,VG/Z type polarity is opposite

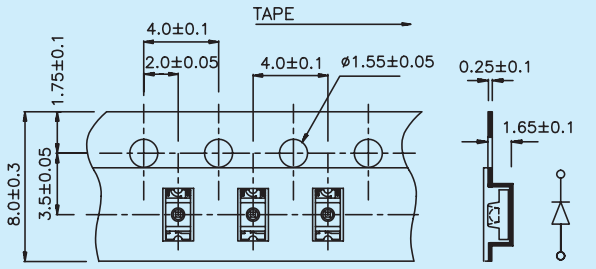
APA3010SF4C

PACKAGE: 2000PCS / REEL



APL3015xxx-F01

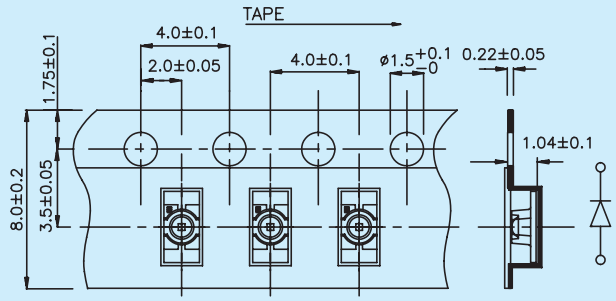
PACKAGE: 2000PCS / REEL



* PB/Z,VG/Z type polarity is opposite

APTL3216

PACKAGE: 2000PCS / REEL

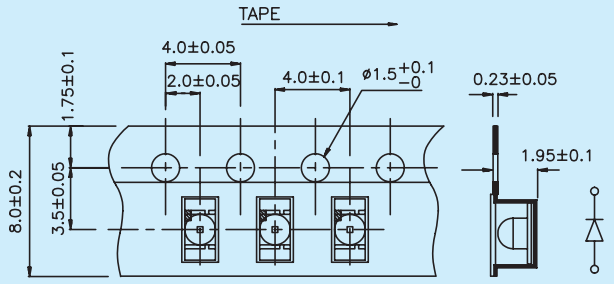


* PB/Z,VG/Z type polarity is opposite

NOTE:
1. All dimensions are in millimeters.

APTD3216

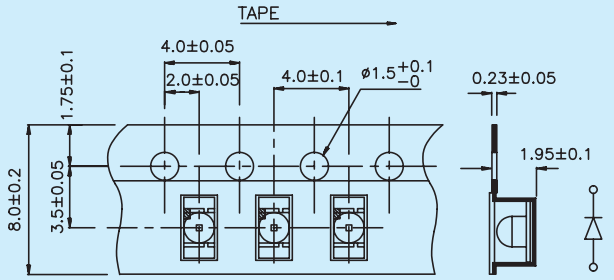
PACKAGE: 2000PCS / REEL



* PB/Z,VG/Z type polarity is opposite

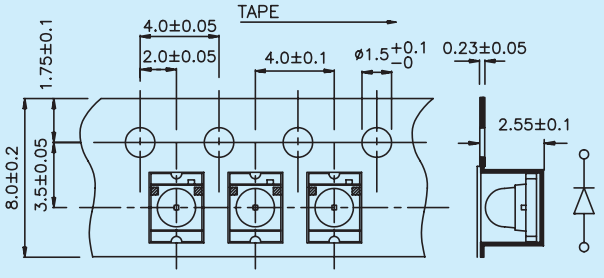
APTD3216SRCPRV

PACKAGE: 2000PCS / REEL



APD3224xxx-F01

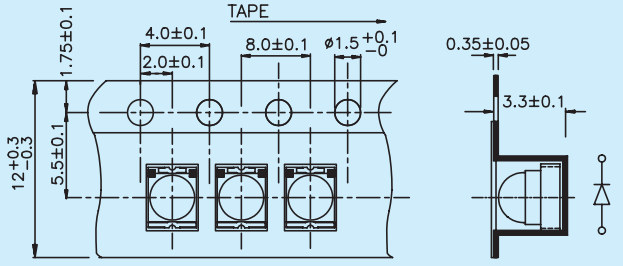
PACKAGE: 1500PCS / REEL



* PB/Z,VG/Z type polarity is opposite

APED3528xxx-F01

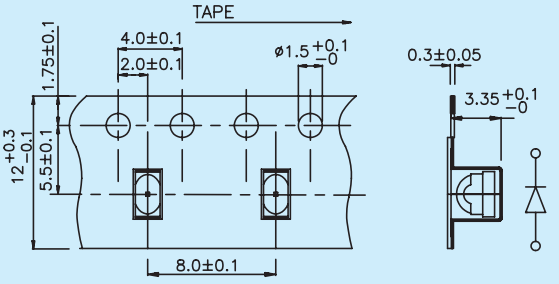
PACKAGE: 500PCS / REEL



* PB/Z,VG/Z type polarity is opposite

APED3820xxx-F01

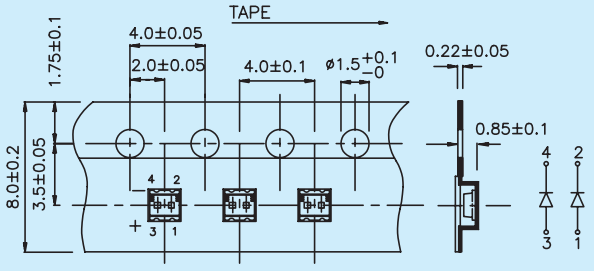
PACKAGE: 500PCS / REEL



* PB/Z,VG/Z type polarity is opposite

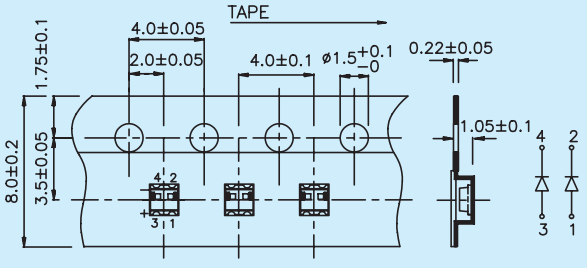
APTB1612xxx-F01

PACKAGE: 2000PCS / REEL



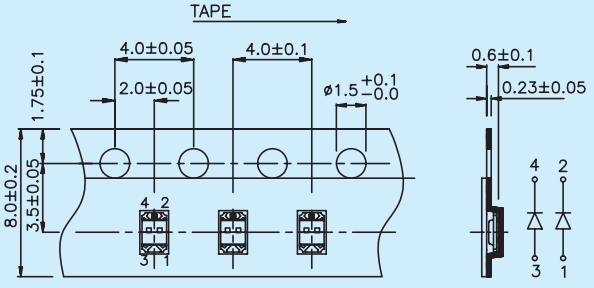
APTB1615xxx-F01

PACKAGE: 2000PCS / REEL



APHBM2012

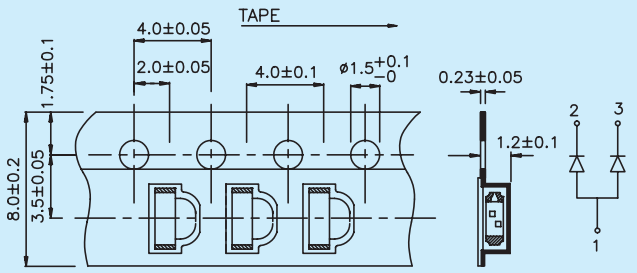
PACKAGE: 2000PCS / REEL



NOTE:
1. All dimensions are in millimeters.

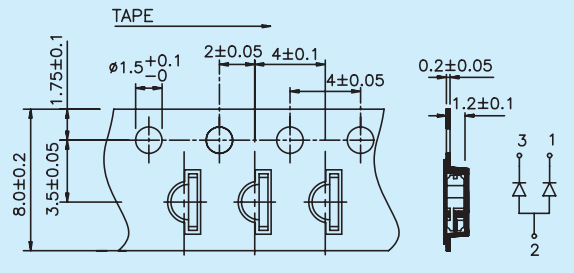
APBA3010xxx-F01

PACKAGE: 2000PCS / REEL



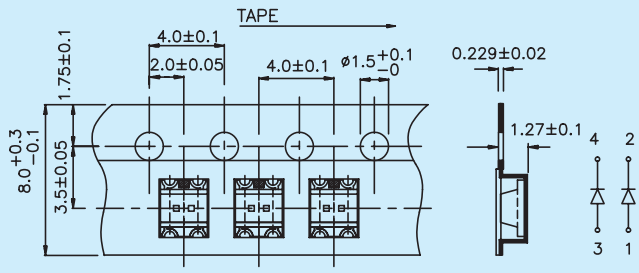
APBA3210xxx-F01

PACKAGE: 2000PCS / REEL



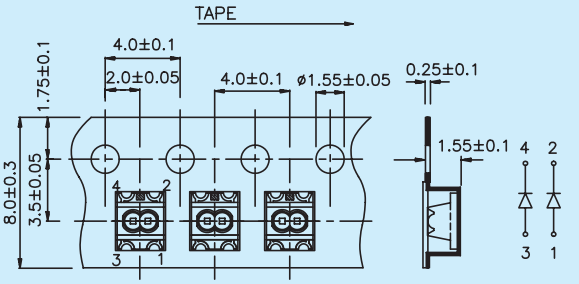
APB3025xxx-F01

PACKAGE: 2000PCS / REEL



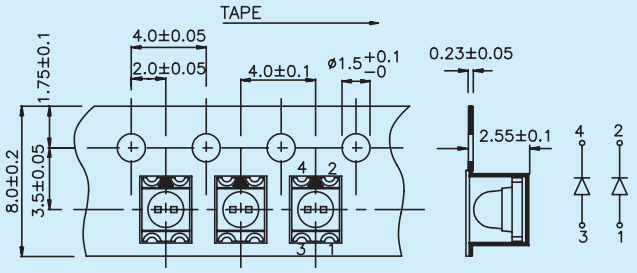
APBL3025xxx-F01

PACKAGE: 2000PCS / REEL



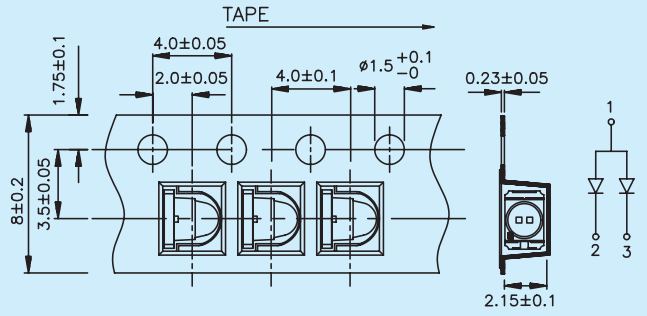
APBD3224xxx-F01

PACKAGE: 1500PCS / REEL



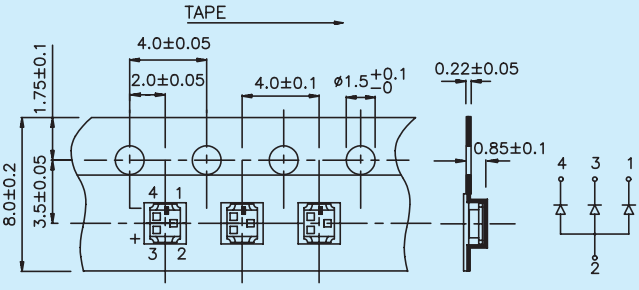
APBDA3020

PACKAGE: 2000PCS / REEL



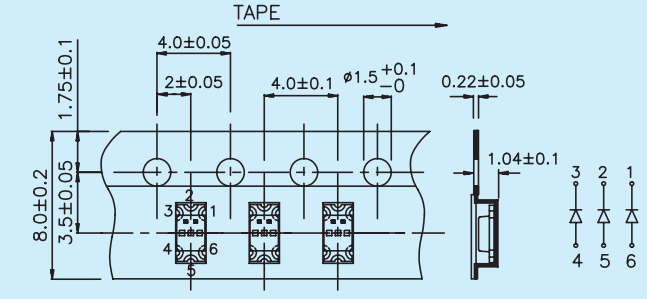
APHFT1612

PACKAGE: 2000PCS / REEL



APTF3216

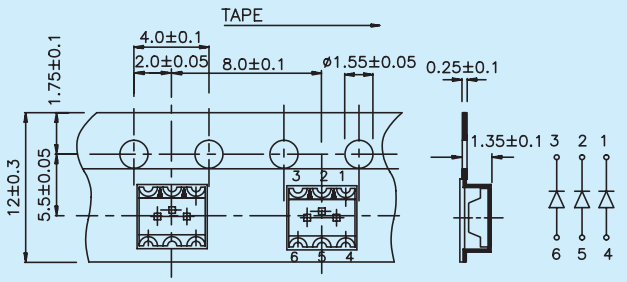
PACKAGE: 2000PCS / REEL



NOTE:
1. All dimensions are in millimeters.

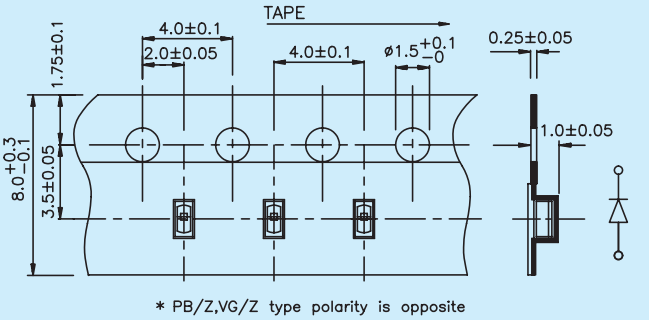
APF3236

PACKAGE: 1000PCS / REEL



APHK1608

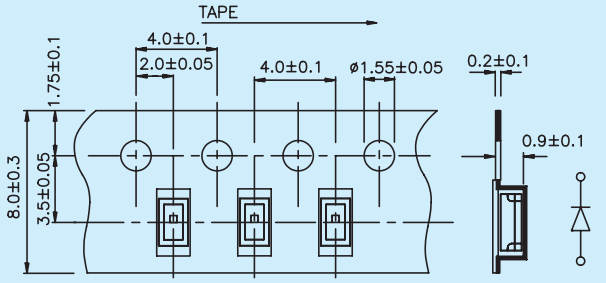
PACKAGE: 2000PCS / REEL



* PB/Z,VG/Z type polarity is opposite

APTK2012xxx-F01

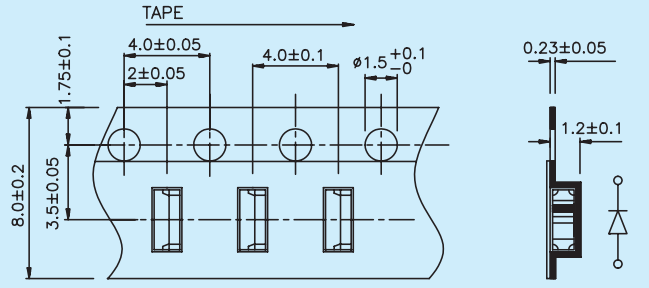
PACKAGE: 2000PCS / REEL



* PB/Z type polarity is opposite

APKA2810xxx-F01

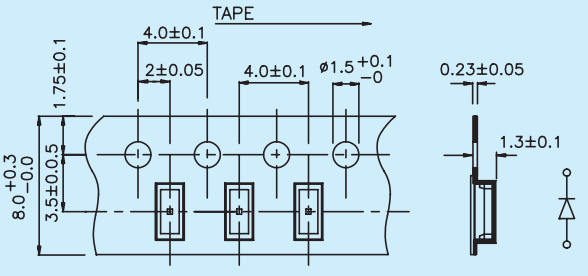
PACKAGE: 2000PCS / REEL



* PB/Z,VG/Z type polarity is opposite

APK3216xxx-F01

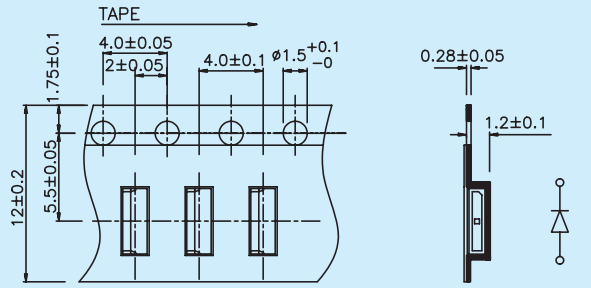
PACKAGE: 2000PCS / REEL



* PB/Z type polarity is opposite

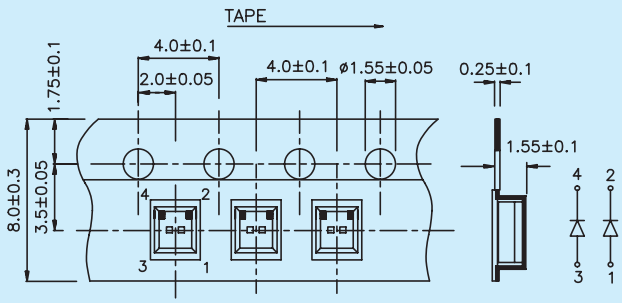
APKA4110xxx-F01

PACKAGE: 2000PCS / REEL



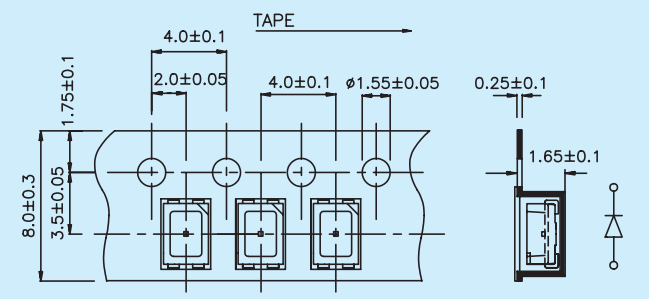
APKB3025xxx-F01

PACKAGE: 2000PCS / REEL



AA3020A

PACKAGE: 2000PCS / REEL

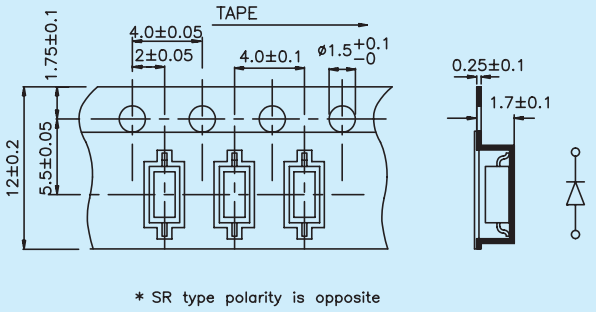


* SR,PB/Z,VG/Z type polarity is opposite

NOTE:
1. All dimensions are in millimeters.

AA3022-4.5SF

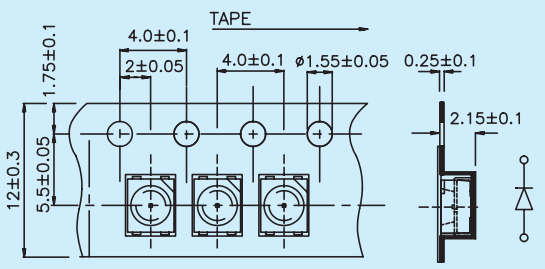
PACKAGE: 1500PCS / REEL



* SR type polarity is opposite

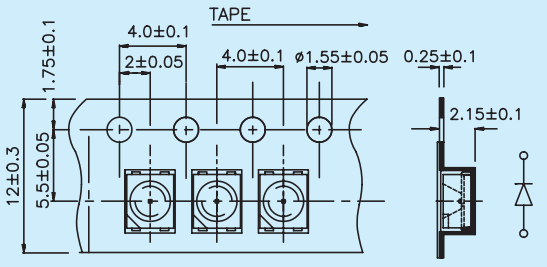
AA3528A

PACKAGE: 1500PCS / REEL



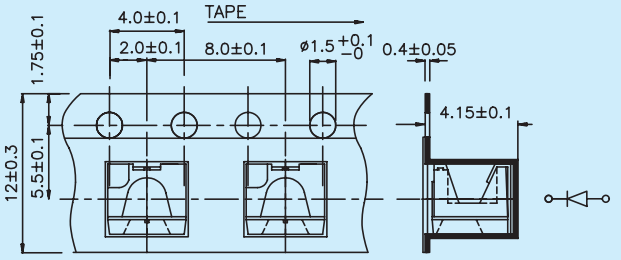
AA3528ASR,PB/Z,VG/Z,SF4

PACKAGE: 1500PCS / REEL



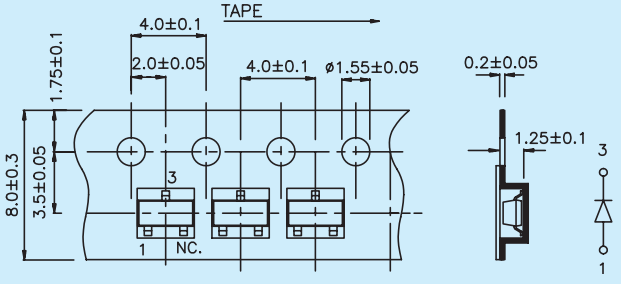
AA4040

PACKAGE: 500PCS / REEL



AM23-F

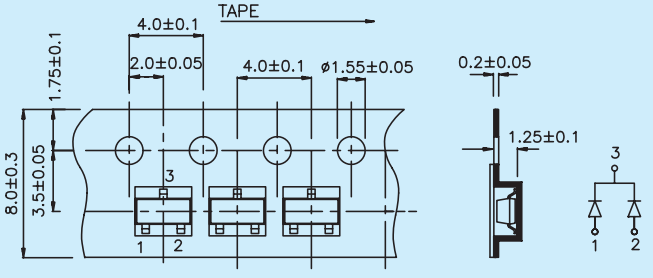
PACKAGE: 2000PCS / REEL



* SR type polarity is opposite

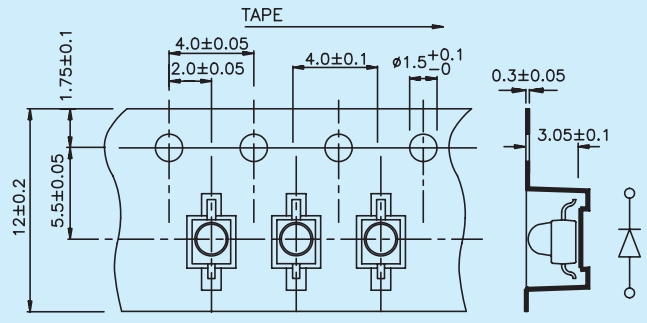
AM23ESG

PACKAGE: 2000PCS / REEL



AM2520xxx03

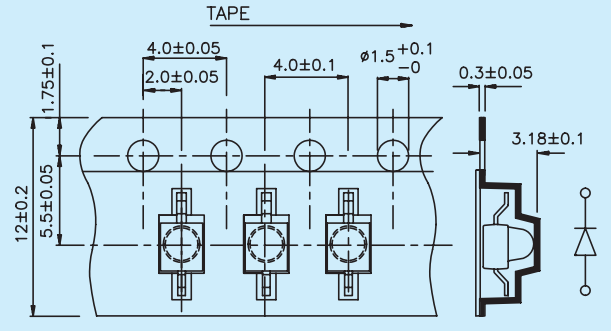
PACKAGE: 1000PCS / REEL



* SR type polarity is opposite

AM2520xxx09

PACKAGE: 1000PCS / REEL



* SR type polarity is opposite

AM27xxx03

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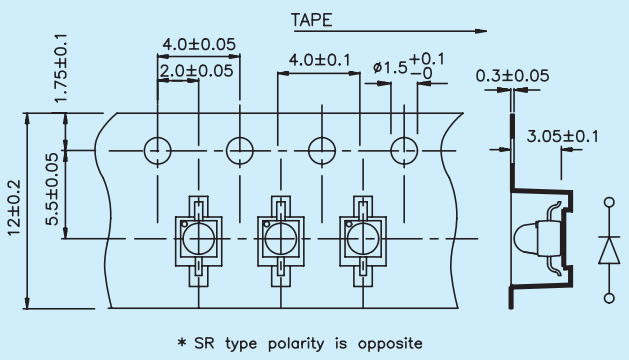

AM27xxx09

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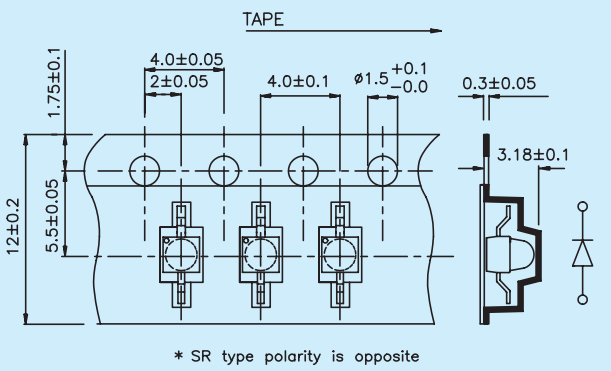

ACSX02-41xxx-F01

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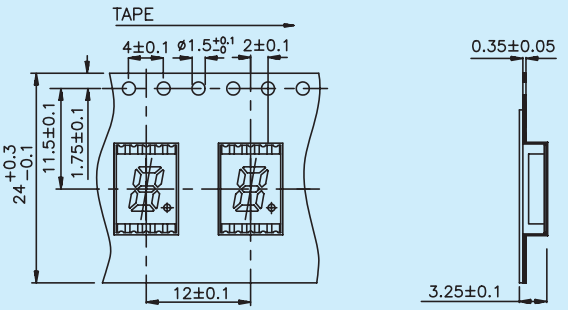

ACDX02-41xxx-F01

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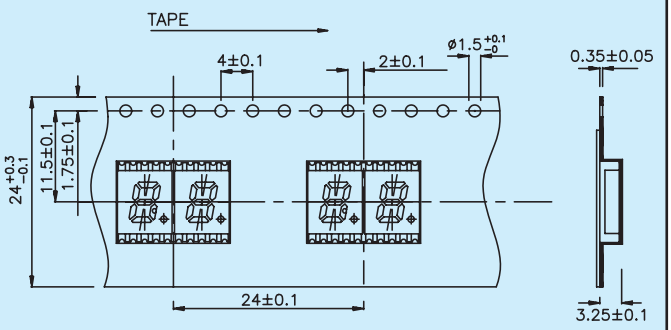

ACSX03-41xxx-F01

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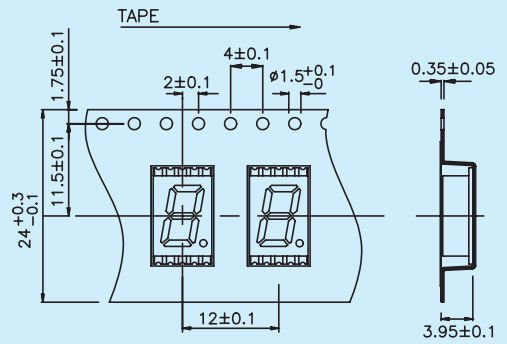

ACDX03-41xxx-F01

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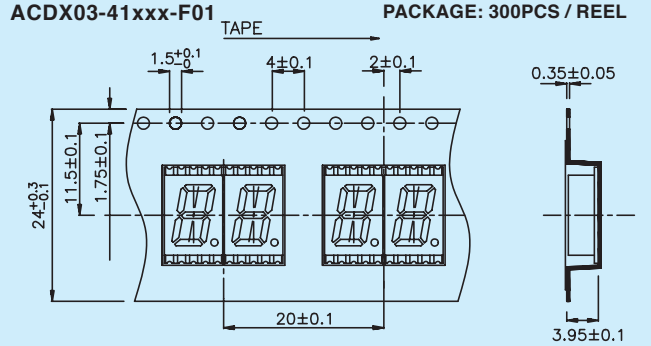

ACSX04-41xxx-F01

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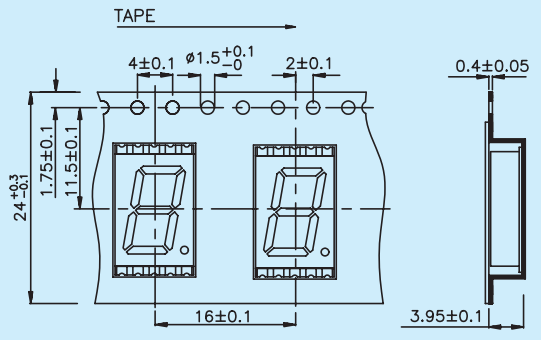

ACDX04-41xxx-F01

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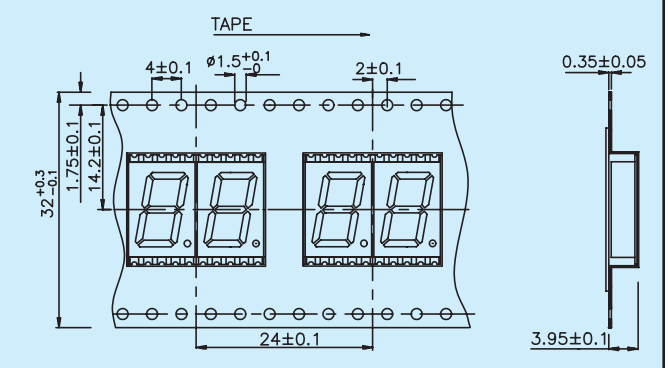
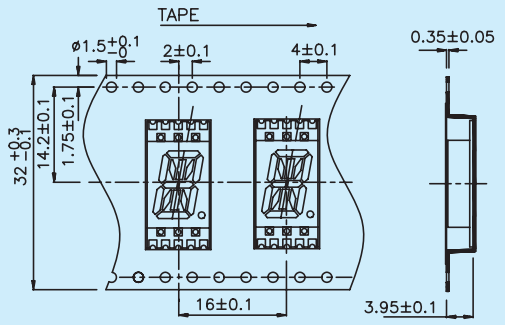
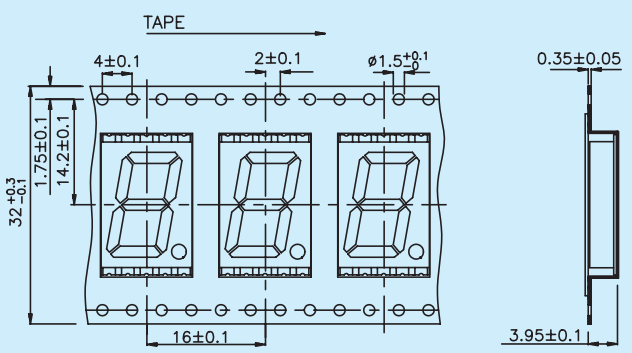


NOTE:
1. All dimensions are in millimeters.

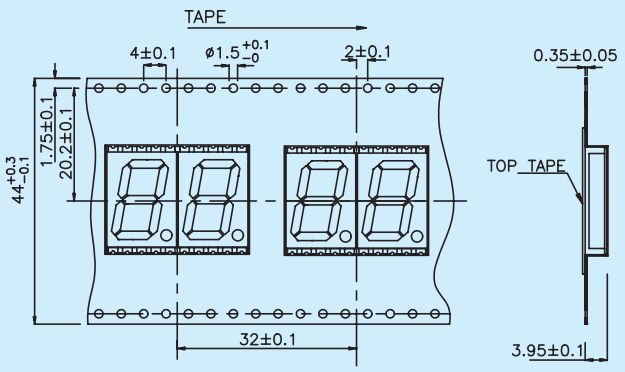
ACPSX04-41 PACKAGE: 400PCS / REEL



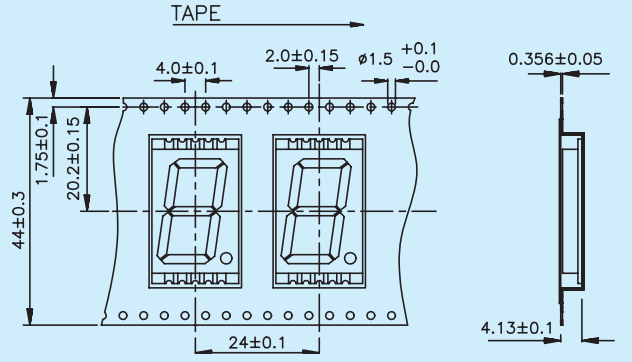
ACSX56-41xxx-F01 PACKAGE: 400PCS / REEL



ACDX56-41xxx-F01 PACKAGE: 200PCS / REEL



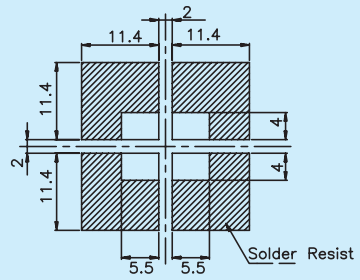
ACSX08-51 PACKAGE: 250PCS / REEL



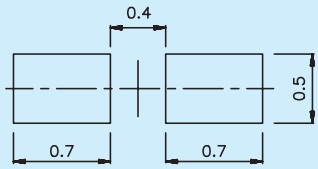
NOTE:
1. All dimensions are in millimeters.

RECOMMENDED SOLDERING PATTERN

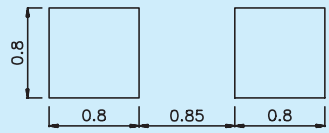
AAD1-1010



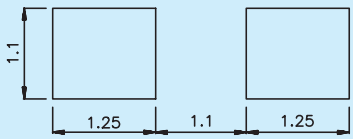
APHH1005,APHHS1005



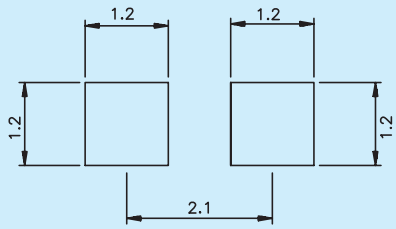
APT1608



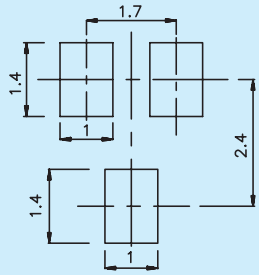
APT2012,APTK2012xxx-F01



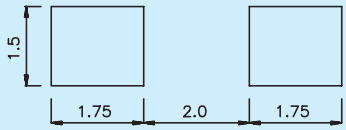
APHCM2012xxx-F01



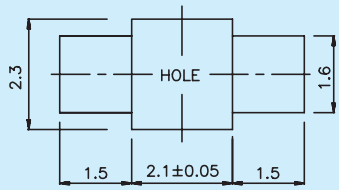
AP23xxx-F01



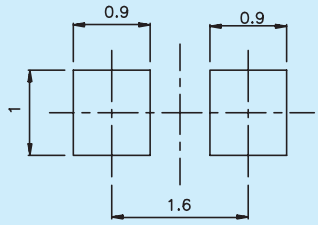
APT3216,APTD3216, APK3216xxx-F01



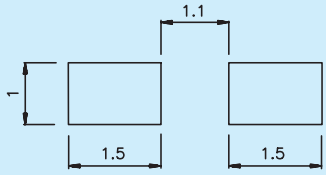
APTR3216



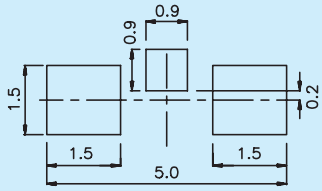
APA1606



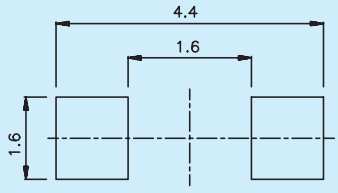
APA2106



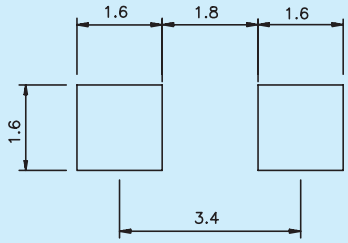
APA3010,APBA3010xxx-F01



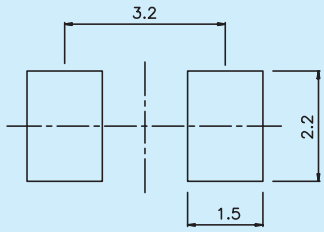
APL3015xxx-F01



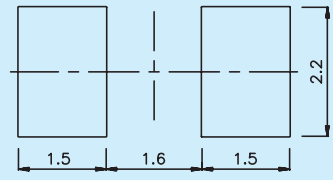
APTL3216



APD3224xxx-F01

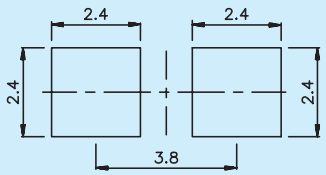


APED3528xxx-F01,AA3528A

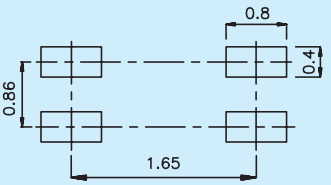


NOTES:
1. All dimensions are in millimeters.
2. Tolerance is ±0.1mm unless otherwise noted.

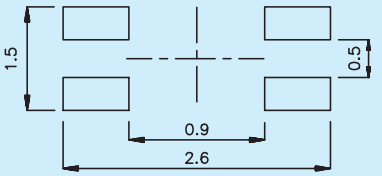
APED3820xxx-F01



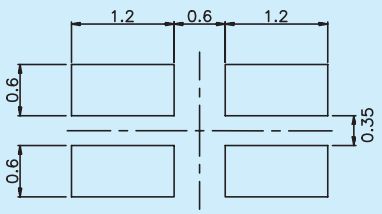
APTB1612xxx-F01



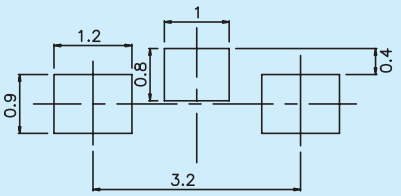
APTB1615xxx-F01



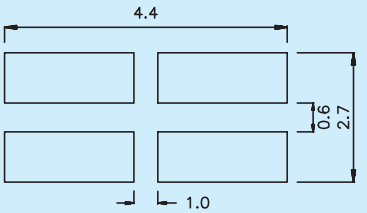
APHBM2012



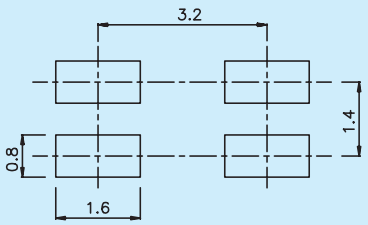
APBA3210xxx-F01



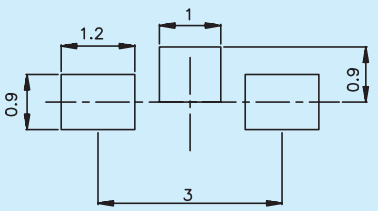
APB3025xxx-F01, APBL3025xxx-F01, APKB3025xxx-F01



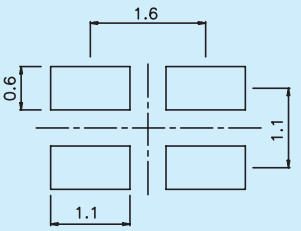
APBD3224xxx-F01



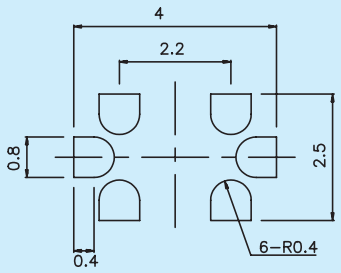
APBDA3020



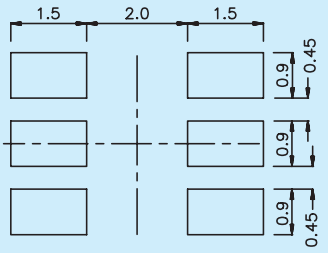
APHFT1612



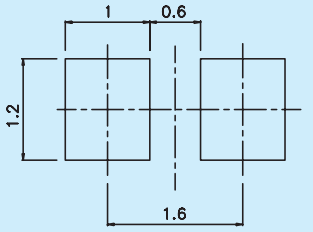
APTF3216



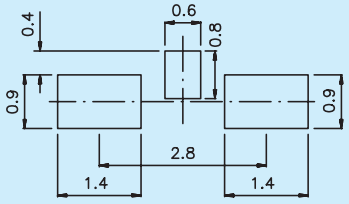
APF3236



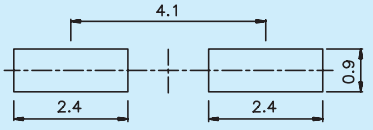
APHK1608



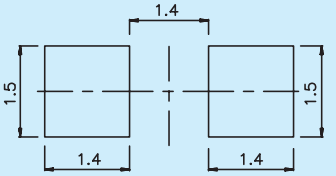
APKA2810xxx-F01



APKA4110xxx-F01



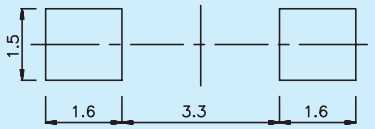
AA3020A



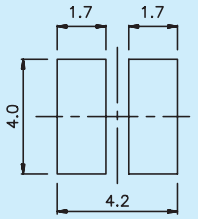
NOTES:
1. All dimensions are in millimeters.
2. Tolerance is ±0.1mm unless otherwise noted.

RECOMMENDED SOLDERING PATTERN

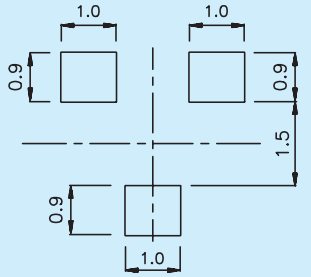
AA3022-4.5SF



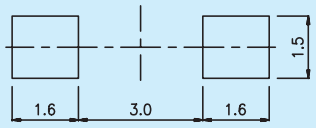
AA4040



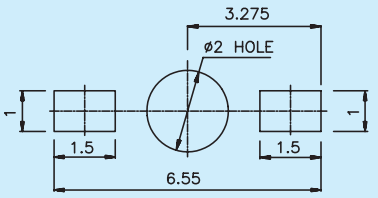
AM23-F



AM2520xxx03,AM27xxx03

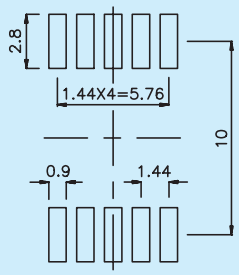


AM2520xxx09,AM27xxx09

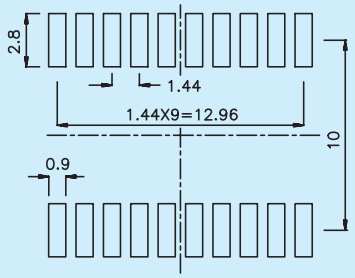


NOTES:
1. All dimensions are in millimeters.
2. Tolerance is ±0.1mm unless otherwise noted.

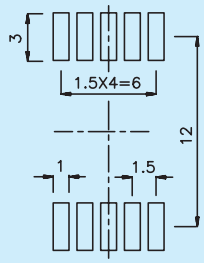
ACSX02-41xxx-F01



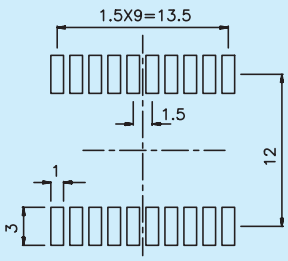
ACDX02-41xxx-F01



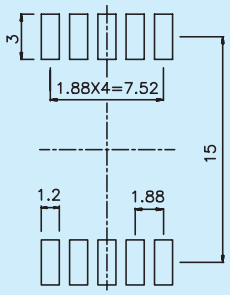
ACSX03-41xxx-F01



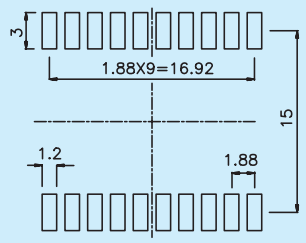
ACDX03-41xxx-F01



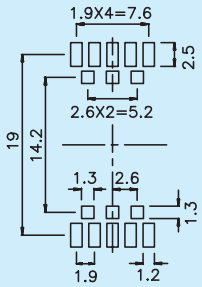
ACSX04-41xxx-F01



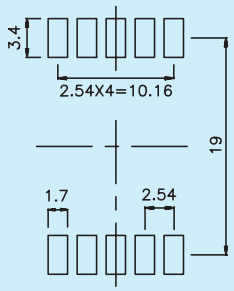
ACDX04-41xxx-F01



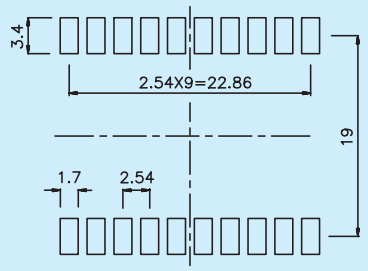
ACPSX04-41



ACSX56-41xxx-F01



ACDX56-41xxx-F01



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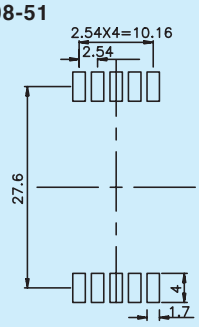

NOTES:
1. All dimensions are in millimeters.
2. Tolerance is ±0.15mm unless otherwise noted.